


Lite-On is the leading global provider of optoelectronic components, with a comprehensive portfolio ranging from Visible LEDs, LED Numeric Displays, and Invisible Infrared Emitting and Detecting Components, Optical Sensors, Photocouplers and UV LEDs.

Offering one of the industry's broadest product portfolios, Lite-ON's optoelectronic based product solutions are used in a wide variety of applications covering various segments of the computer, communications, consumer, and industrial.

With a clear vision to be "Best Partner in Optoelectronic, Eco-Friendly and Intelligent Technologies", we are driven to create extraordinary value and competitive dvantage for our customers through innovative technology, superior flexibility manufacturing capabilities and professional services.

Together, we work to enrich lives and shape the future!

For more information, please visit us online at www.liteon.com/opto

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## | Products \& Solutions



Products \& Solutions in Mobile \& Wearable Devices

Environmental Monitoring
UV Detector

Health Care
Heart Rate Monitor
/ Pulse oximetry

Status Display
Indicator
$\theta$
Health Sensor


SMD LED

Camera Flash
Illumination

Entertainment
Remote Control

Smart Adjusting
Detect Object Presence Turn On/Off Screen
Screen Brightness/Color Temperature Adjusting

Flash LED
Infrared LED


## Positioning

Position Tracking \& Mapping


Infrared LED


Photodiode

SMD LED


Convenient
Gesture Recognition

Security
Iris Recognition

Infrared LED


Products \& Solutions in Smart Home \& Appliances

Isolation
Power Supply

Power Management
Power Source

Photocoupler


Obstacle Avoidance
Object Detecting


Proximity Sensor
RGB Sensor


## Status Display

Indicator


Photocoupler
Infrared Emitter

## Products \& Solutions in Automotive

## CHMSL

Side Turn Indicator

## Piranha

PLCC 4/6 Top View LED

PLCC Top View LED

RCL
(Rear Combination Light)
Light Sensing

PLCC 4/6 Top View LED
Ambient Light Sensor

High Power LED


Headlight
(High/Low Beam)

Daytime Running Light / Front Position



Single Die High Power LED


Decorative/ Ambient Light
Dashboard Lights
Interior Lighting/ Reading Light

Front Fog Light


PLCC Side View LED

RGB 3-in-1 LED

## Products \& Solutions in Industrial

## Protection

Isolation

Status Display
Status Display

SMD LED

LED Display


## Safety Guards

Object Detecting

Infrared Emitter and Detector


## Isolation

Signal Isolation


Isolation
Transmission
Inverter / Motor Control
Data Communication

Photocoupler

## Products \& Solutions in <br> Surveillance \& Security



Night Vision Assistance
Illumination
(9) Infrared LED


Status Display
Indicator

Smart Switch
Touchless Light Switch


## Detection

Detecting Particles


IR Emitter
\& Detector

## Security

Facial \& Iris Recognition

Infrared LED


Products \& Solutions in
Signage \& Street Lighting


Indoor

## P2.5

Fine Pitch

SMD Chip LED
SMD LED PLCC 2/4/6



## P12

## Pure outdoor

Through Hole Lamp


High Power White LED

Flash LED＿2016 Package
$\qquad$


| Part No． | Correlated color temperature <br> （K） | CRI | Typ． Luminous Flux © v （Im） | View Angle $2 \theta_{1 / 2}$ | Typ． <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ （V） | Forward Current $I_{F}^{*}$ （mA） | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ | Peak Pulsed Forward Current $\mathrm{I}_{\mathrm{F}}^{* *}(\mathrm{~mA})$ | Max．Junction Temperature Tj（ ${ }^{\circ} \mathrm{C}$ ） | Operating Temperature Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL－C0678WPYB | 5000～6000K | NCRI | 320 | 120 | 3.4 | 1000 | 3 | 1500 | 125 | －40～85 |
| LTPL－C0677WPYB | 5000～6000K | NCRI | 300 | 120 | 3.4 | 1000 | 4 | 1500 | 125 | －40～85 |
| LTPL－C0675WPYB | 5000～6000K | NCRI | 260 | 120 | 3.4 | 1000 | 7 | 1500 | 125 | －40～85 |
| LTPL－C0673WPYB | 5000～6000K | NCRI | 240 | 120 | 3.4 | 1000 | 8 | 1500 | 125 | －40～85 |
| LTPL－C0677WPRB | 2000～2500K | NCRI | 230 | 120 | 3.4 | 1000 | 5 | 1500 | 125 | －40～85 |
| LTPL－C0675WPRB | 2000～2500K | NCRI | 200 | 120 | 3.4 | 1000 | 8 | 1500 | 125 | －40～85 |
| LTPL－C0677WPGB | 5000～6000K | 80 | 270 | 120 | 3.4 | 1000 | 4 | 1500 | 125 | －40～85 |
| LTPL－C0675WPGB | 5000～6000K | 80 | 220 | 120 | 3.4 | 1000 | 7 | 1500 | 125 | －40～85 |
| LTPL－C0677WPHB | 5000～6000K | 90 | 240 | 120 | 3.4 | 1000 | 3 | 1500 | 125 | －40～85 |

＊Electro－optical testing conducted in single pulse mode， $\mathrm{T}_{\mathrm{ON}}=300 \mathrm{~ms}, \mathrm{I}_{\mathrm{F}}=1000 \mathrm{~mA}$
＊＊Peak pulsed forward current applies to $50 \mathrm{~ms}: \mathrm{on}, 950 \mathrm{~ms}$ ：Off，D： 0.05

Flash LED_1610 Package
$\qquad$


* Electro-optical testing conducted in single pulse mode, $\mathrm{T}_{\mathrm{on}}=300 \mathrm{~ms}, \mathrm{I}=1000 \mathrm{~mA}$
** Peak pulsed forward current applies to $400 \mathrm{~ms}: 0 \mathrm{on}, 3600 \mathrm{~ms}$ : Off, D: 0.1


## Flash LED_Module Type



* Electro-optical testing conducted in single pulse mode, $\mathrm{T}_{\mathrm{ON}}=300 \mathrm{~ms}, \mathrm{I}_{\mathrm{F}}=1000 \mathrm{~mA}$
** Peak pulsed forward current applies to $50 \mathrm{~ms}:=\mathrm{n}, 950 \mathrm{~ms}$ : Off, D: 0.05

* Electro-optical testing conducted in single pulse mode, $\mathrm{T}_{\mathrm{o}}=300 \mathrm{~ms}, \mathrm{I}_{\mathrm{F}}=1000 \mathrm{~mA}$
** Peak pulsed forward current applies to $50 \mathrm{~ms}:$ on, 950 ms : Off, D: 0.05


| Part No. | Correlated color temperature (K) | Typ. Luminous Flux © v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}^{*}$ (mA) | $\begin{gathered} \text { Thermal } \\ \text { Resistance } \\ \mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{gathered}$ | Peak Pulsed Forward Current $I_{F}^{* *}(\mathrm{~mA})$ | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating Temperature Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-A136DWAYB | 5000~6000K | 270 | 120 | 3.4 | 1000 | 2.4 | 1500 | 125 | -40~85 |
| LTPL-A133DWARB | 2000~2500K | 190 | 120 | 3.4 | 1000 | 2.4 | 1500 | 125 | -40~85 |

* Electro-optical testing conducted in single pulse mode, $\mathrm{T}_{\mathrm{oN}}=300 \mathrm{~ms}, \mathrm{I}_{\mathrm{F}}=1000 \mathrm{~mA}$
** Peak pulsed forward current applies to $400 \mathrm{~ms}: \mathrm{on}, 3600 \mathrm{~ms}$ : Off, D: 0.1
$\qquad$ (.5x.550.33 mm

| Part No. | Correlated color temperature (K) | Typ. Luminous Flux © v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $l_{f}^{*}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ | Peak Pulsed Forward Current $I_{F}^{* * *}(\mathrm{~mA})$ | Max. Junction Temperature Tj $\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-A157DWFYB | 5000~6000K | 300 | 120 | 3.4 | 1000 | 2 | 1500 | 125 | '-40~85 |
| LTPL-A155DWFWB | 2000~2500K | 240 | 120 | 3.4 | 1000 | 2 | 1500 | 125 | '-40~85 |

[^0]** Peak pulsed forward current applies to $400 \mathrm{~ms}: \mathrm{on}, 3600 \mathrm{~ms}$ : Off, D: 0.1


## SMD Product Quick View Table

Chip LED_Top view



## SMD Product Quick View Table

## Chip LED_Side View

| Color |  | Single Color |  |  |  |  | Dual Color |  | Multi Color |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Product Type | General |  |  |  |  | Reflector | General |  | General |  |  |
| Dimension (mm) | 1.6x1.15 | $1.8 \times 1.0$ | 2.1×1.0 | $3.2 \times 1.5$ | $3.2 \times 2.0$ | $1.4 \times 0.8$ | $3.2 \times 1.5$ | $3.2 \times 2.0$ | 3.0×1.0 | $3.2 \times 1.5$ | $3.2 \times 2.0$ |
| 1.0t |  |  |  | S110 | S320 |  | S115(A) | $\begin{aligned} & \text { S326(A) } \\ & \text { S327(C) } \end{aligned}$ |  | $\begin{aligned} & \text { S310(A) } \\ & \text { S311(C) } \end{aligned}$ | S32F(A) |
| 0.6t | S270 |  | S220 |  |  |  |  |  | S33G(A) |  |  |
| 0.5t |  |  |  |  |  |  |  |  |  |  |  |
| 0.4t |  |  |  |  |  | S850 |  |  | $\begin{aligned} & \text { S33F(A) } \\ & \text { S43F(C) } \end{aligned}$ |  |  |
| 0.3t |  | S482 |  |  |  |  |  |  |  |  |  |
| A=Common Anode $\quad \mathrm{C}=$ Common Cathode |  |  |  |  |  |  |  |  |  |  |  |

PLCC_Top View

| Color |  |  | Single Color |  |  |  |  | Dual Color |  |  | Multi Color |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dimension (mm) | 2.0x1.6 | 2.3x1.4 | 2.7x1.4 | 3.0x1.4 | 3.0×2.0 | $3.5 \times 2.8$ | $5.6 \times 3.0$ | $6.2 \times 2.8$ | $3.5 \times 2.8$ | $3.5 \times 2.8$ | $3.5 \times 3.2$ | $5.4 \times 5.0$ | $6.2 \times 2.8$ | $7.4 \times 5.0$ |
| 1.9t |  |  |  |  |  | $\begin{aligned} & \text { T680/670 } \\ & \text { (PLCC2) } \\ & \text { E680 } \\ & \text { (PLCC4) } \end{aligned}$ |  | F680 | E682 |  |  |  | A683 |  |
| 1.6t |  |  |  |  |  |  |  |  |  |  |  | G563 |  |  |
| 1.3t |  | M230 |  |  | M670 |  |  |  |  | G683 |  |  |  | P033 |
| 1.2 t |  |  |  | M140 |  |  |  |  |  |  |  |  |  |  |
| 0.9t |  |  |  |  |  |  | 5630 |  |  |  |  |  |  |  |
| 0.8 t |  |  | K140 |  |  |  |  |  |  |  |  |  |  |  |
| 0.65 t |  |  |  |  |  |  |  |  |  |  | Q35 |  |  |  |
| 0.55t | C0610 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0.3t |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## PLCC_Side View

| Color |  | Single Color |  | Dual Color |  | Multi Color |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dimension (mm) | 2.8×1.2 | $3.0 \times 0.85$ | $3.8 \times 1.0$ | $3.8 \times 1.2$ | $4.5 \times 1.25$ | $4.5 \times 1.0$ | $4.5 \times 1.25$ |
| 0.8t | $\begin{aligned} & 108 \\ & 008 \end{aligned}$ |  |  |  | 008 |  | 008 |
| 0.6t |  |  | 206 | $\begin{aligned} & 020 \\ & 006 \end{aligned}$ |  | 006 |  |
| 0.4 t |  |  | 010 |  |  |  |  |
| 0.35 t |  | 303 |  |  |  |  |  |

## Chip LED_Top View



Chip LED_Top View

$1.0 \times 0.5 \times 0.2 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{\text {F }}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C283KRKT-5A | Red | 631 | 60 | 130 | 2.0 | 5 |
| LTST-C283KFKT-5A | Orange | 605 | 90 | 130 | 2.0 | 5 |
| LTST-C283KSKT-5A | Yellow | 589 | 50 | 130 | 2.0 | 5 |
| LTST-C283KGKT-5A | Yellow Green | 571 | 35 | 130 | 2.0 | 5 |
| LTST-C283TGKT-5A | True Green | 525 | 150 | 130 | 2.9 | 5 |
| LTST-C283TBKT-5A | Blue | 470 | 50 | 130 | 2.9 | 5 |
| LTW-C283DS5 | White | (0.304, 0.301) | 112 | 130 | 2.9 | 5 |

Chip LED_Top View

$1.0 \times 0.8 \times 0.35 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity lv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C281KRKT-5A | Red | 631 | 11.2 | 130 | 1.9 | 5 |
| LTST-C281KFKT-5A | Orange | 605 | 28 | 130 | 1.9 | 5 |
| LTST-C281KSKT-5A | Yellow | 589 | 18 | 130 | 1.9 | 5 |
| LTST-C281KGKT-5A | Yellow Green | 571 | 7.1 | 130 | 1.9 | 5 |
| LTST-C281TGKT-5A | True Green | 525 | 71 | 130 | 2.9 | 5 |
| LTST-C281TBKT-5A | Blue | 470 | 28 | 130 | 2.9 | 5 |
| LTW-C281DS5 | White | (0.304, 0.301) | 112 | 130 | 2.9 | 5 |

## Chip LED_Top View


$1.6 \times 0.8 \times 0.2 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity lv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C198KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C198KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C198KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C198KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C198TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-C198TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |
| LTW-198ZDS5 | White | (0.31, 0.33) | 180 | 130 | 2.9 | 5 |

## Chip LED_Top View

|  | mm |  |  | LED DICE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity lv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| LTST-C194KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C194KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C194KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C194KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C194TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-C194TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |
| LTW-C194TS5 | White | (0.294, 0.286) | 100 | 130 | 2.9 | 5 |

Chip LED_Top View


Chip LED_Top View


Chip LED_Top View

$1.6 \times 0.8 \times 0.8 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{\text {F }}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C190KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C190KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C190KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C190KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C190TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-C190TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |
| LTW-C190DA5 | White | (0.203, 0.319) | 112 | 130 | 2.9 | 5 |

## Chip LED_Top View

|  | $0.75 \text { mm }$ |  |  |  | Coles |  | ARD <br> e |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | CIE ( $x, y$ ) | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | $\begin{aligned} & \text { Forward Current } \\ & \qquad I_{F}(\mathrm{~mA}) \end{aligned}$ |
| LTST-C19DKRKT | Red |  | 331 | 18 | 50 | 2.0 | 20 |
| LTST-C19DKFKT | Orange |  | 65 | 16 | 50 | 2.0 | 20 |
| LTST-C19DKSKT | Yellow |  | 89 | 18 | 50 | 2.0 | 20 |
| LTST-C19DTGKT | True Green |  | 25 | 100 | 50 | 2.8 | 20 |
| LTW-C19DZDS5 | White | (0.27 | , 0.26) | 30 | 50 | 2.8 | 5 |

Chip LED_Top View


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \operatorname{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C171KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C171KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C171KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C171KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C171TGKT | True Green | 525 | 180 | 130 | 3.3 | 20 |
| LTST-C171TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |

Chip LED_Top View


## Chip LED_Top View



## Chip LED_Top View_Reverse Mount


Chip LED_Top View_Reverse Mount



| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C230KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C230KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C230KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C230KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C230TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-C230TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |
| LTW-C230DS | White | (0.294, 0.286) | 280 | 130 | 3.3 | 20 |

## Chip LED_Top View _Dome Lens


$1.6 \times 0.8 \times 0.98 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C990KRKT | Red | 631 | 450 | 75 | 2.0 | 20 |
| LTST-C990KFKT | Orange | 605 | 300 | 75 | 2.0 | 20 |
| LTST-C990KSKT | Yellow | 589 | 280 | 75 | 2.0 | 20 |
| LTST-C990KGKT | Yellow Green | 571 | 250 | 75 | 2.0 | 20 |
| LTST-C990TGKT | True Green | 525 | 1800 | 75 | 3.3 | 20 |
| LTST-C990TBKT | Blue | 470 | 700 | 75 | 3.3 | 20 |

## Chip LED _Top View _Dome Lens


Forward Current $I_{F}(m A)$

| LTST-C950KRKT |  | Red | 631 | 900 | 25 | 2.0 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C950KFKT | $\square$ | Orange | 605 | 1800 | 25 | 2.0 | 20 |
| LTST-C950KSKT |  | Yellow | 589 | 1800 | 25 | 2.0 | 20 |
| LTST-C950KGKT |  | Yellow Green | 571 | 710 | 25 | 2.0 | 20 |
| LTST-C950TGKT |  | True Green | 525 | 2800 | 25 | 3.3 | 20 |
| LTST-C950TBKT |  | Blue | 470 | 1120 | 25 | 3.3 | 20 |
| LTW-C9501DS5 |  | White | (0.294, 0.286) | 1000 | 25 | 2.8 | 5 |
| LTW-9501ZDS5 | $\square$ | White | (0.294, 0.286) | 1000 | 25 | 2.8 | 5 |

Chip LED _Top View _Dome Lens


Chip LED_Top View_Inner Lens

$3.2 \times 1.6 \times 0.6 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | $\begin{aligned} & \text { Forward Current } \\ & \qquad I_{F}(m A) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C216KRKT | Red | 631 | 60 | 130 | 2.0 | 20 |
| LTST-C216KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-C216KSKT | Yellow | 589 | 50 | 130 | 2.0 | 20 |
| LTST-C216KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-C216TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-C216TBKT | Blue | 470 | 50 | 130 | 3.3 | 20 |
| LTW-216TS5 | White | (0.304, 0.301) | 112 | 130 | 2.9 | 5 |

Chip LED _Top View_Inner Lens

$3.2 \times 1.6 \times 1.1 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \operatorname{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv(mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C21KRKT | Red | 631 | 100 | 70 | 2.0 | 20 |
| LTST-C21KFKT | Orange | 605 | 180 | 70 | 2.0 | 20 |
| LTST-C21KSKT | Yellow | 589 | 112 | 70 | 2.0 | 20 |
| LTST-C21KGKT | Yellow Green | 571 | 71 | 70 | 2.0 | 20 |
| LTST-C21TGKT | True Green | 525 | 450 | 70 | 3.3 | 20 |
| LTST-C21TBKT | Blue | 470 | 112 | 70 | 3.3 | 20 |
| LTW-21TS5 | White | (0.304, 0.301) | 71 | 70 | 2.9 | 5 |

## Chip LED_Top View_Dual Color



Chip LED_Top View_Dual Color


## Chip LED_Top View_Dual Color


$1.6 \times 1.25 \times 0.55 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \operatorname{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity lv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C395TBKFKT | Orange | 605 | 100 | 130 | 1.9 | 20 |
|  | Blue | 470 | 80 |  | 3.1 | 20 |
| LTST-C395KGKFKT | Orange | 605 | 100 | 130 | 1.9 | 20 |
|  | Yellow Green | 571 | 60 |  | 1.9 | 20 |
| LTST-C395KGKRKT | Red | 631 | 90 | 130 | 1.9 | 20 |
|  | Yellow Green | 571 | 60 |  | 1.9 | 20 |

Chip LED_Top View_Dual Color

$1.6 \times 1.5 \times 0.55 \mathrm{~mm}$



| Part No. |  | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | $\begin{aligned} & \text { Forward Current } \\ & \mathrm{I}_{\mathrm{F}}(\mathrm{~mA}) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C195TBJRKT |  | Red | 631 | 45 | 130 | 2.0 | 20 |
|  |  | Blue | 470 | 28 |  | 3.3 | 20 |
| LTST-C195KGKFKT | $\square$ | Orange | 605 | 28 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 18 |  | 2.0 | 20 |
| LTST-C195KGJRKT | $\square$ | Red | 631 | 28 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 18 |  | 2.0 | 20 |
| LTW-C195DSKS-5A | - | Yellow | 589 | 18 | 130 | 2.0 | 5 |
|  | $\square$ | White | (0.30, 0.30) | 71 |  | 2.75 | 5 |

## Chip LED_Top View_Dual Color



Chip LED_Top View_Dual Color


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{\mathrm{F}}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C155TBJRKT | Red | 631 | 45 | 130 | 2.0 | 20 |
|  | Blue | 470 | 28 |  | 3.3 | 20 |
| LTST-C155KGKFKT | Orange | 605 | 28 | 130 | 2.0 | 20 |
|  | Yellow Green | 571 | 18 |  | 2.0 | 20 |
| LTST-C155KGJRKT | Red | 631 | 28 | 130 | 2.0 | 20 |
|  | Yellow Green | 571 | 28 |  | 2.0 | 20 |

Chip LED_Top View_Reverse Mount Dual Color


Chip LED_Top View_Reverse Mount Dual Color

$3.2 \times 1.6 \times 1.1 \mathrm{~mm}$


| 1.10 |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |
|  | $\square$ |  | 0.2 |


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C235TBJRKT | Red | 631 | 45 | 130 | 2.0 | 20 |
|  | Blue | 470 | 28 |  | 3.3 | 20 |
| LTST-C235KGKSKT | Yellow | 589 | 28 | 130 | 2.0 | 20 |
|  | Yellow Green | 571 | 18 |  | 2.0 | 20 |
| LTST-C235KGKRKT | Red | 631 | 28 | 130 | 2.0 | 20 |
|  | Yellow Green | 571 | 18 |  | 2.0 | 20 |
| LTW-C235DSKF-5A | Orange | 605 | 28 | 130 | 2.0 | 5 |
|  | White | (0.30, 0.30) | 71 |  | 2.9 | 5 |

## Chip LED＿Top View＿Multi Color



Chip LED＿Top View＿Multi Color

$1.0 \times 1.0 \times 0.5 \mathrm{~mm}$


| Part No． |  | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ．Luminous Intensity Iv （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST－B28JEGBB－5A |  | Red | 624 | 7.1 | 130 | 1.9 | 5 |
|  |  | True Green | 530 | 18 |  | 2.8 | 5 |
|  |  | Blue | 470 | 7.1 |  | 2.8 | 5 |

## Chip LED_Top View_Multi Color



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C19HE1WT | Red | 624 | 71 | 130 | 2.0 | 20 |
|  | True Green | 525 | 180 |  | 3.3 | 20 |
|  | Blue | 470 | 71 |  | 3.3 | 20 |
| LTST-C19HRGYW | Red | 624 | 112 | 130 | 2.1 | 20 |
|  | Yellow | 594 | 175 |  | 2.1 | 20 |
|  | True Green | 525 | 260 |  | 3.2 | 20 |

Chip LED_Top View_Multi Color


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{\text {F }}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C19KBEGK-5A | Red | 624 | 28 | 130 | 2 | 5 |
|  | True Green | 528 | 112 |  | 2.8 | 5 |
|  | Blue | 470 | 28 |  | 2.8 | 5 |

## Chip LED＿Top View＿Multi Color




| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ．Luminous Intensity lv （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST－C19JZEGB1W－5A | Red | 624 | 28 | 130 | 1.9 | 5 |
|  | True Green | 530 | 78 |  | 2.8 | 5 |
|  | Blue | 470 | 28 |  | 2.8 | 5 |

Chip LED＿Top View＿Multi Color


| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ．Luminous Intensity Iv （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST－C19MGEBK－5A | Red | 624 | 112 | 130 | 2 | 5 |
|  | True Green | 530 | 280 |  | 2.6 | 5 |
|  | Blue | 470 | 70 |  | 2.6 | 5 |

## Chip LED_Top View_Multi Color


$1.6 \times 2.1 \times 0.4 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity lv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C19GD2WT | - Red | 626 | 100 | 130 | 2 | 20 |
|  | - True Green | 525 | 180 |  | 3.3 | 20 |
|  | - Blue | 470 | 40 |  | 3.3 | 20 |

Chip LED_Top View_Multi Color

$1.6 \times 2.1 \times 0.55 \mathrm{~mm}$



| Part No. | Color | Typ. Luminous <br> Intensity Iv <br> $(\mathrm{mcd})$ | View Angle <br> $2 \theta_{1 / 2}$ | Typ. Forward <br> Voltage $V_{F}(\mathrm{~V})$ |
| :--- | :--- | :--- | :--- | :--- |
| LTST-C19FD1WT | Orange | 605 | 71 | 2 |

## Chip LED_Side View



Chip LED_Side View


## Chip LED_Side View



Chip LED_Side View

$3.2 \times 1.5 \times 1.0 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm}) / \operatorname{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity IV (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-S110KRKT | Red | 631 | 54 | 130 | 2.0 | 20 |
| LTST-S110KFKT | Orange | 605 | 90 | 130 | 2.0 | 20 |
| LTST-S110KSKT | Yellow | 589 | 80 | 130 | 2.0 | 20 |
| LTST-S110KGKT | Yellow Green | 571 | 35 | 130 | 2.0 | 20 |
| LTST-S110TGKT | True Green | 525 | 150 | 130 | 3.3 | 20 |
| LTST-S110TBKT | Blue | 470 | 70 | 130 | 3.3 | 20 |
| LTW-110TS5 | White | (0.304, 0.301) | 70 | 130 | 2.9 | 5 |

## Chip LED＿Side View



Chip LED＿Side View with Reflector
Part No．

## Chip LED_Side View_Dual Color


$3.2 \times 1.5 \times 1.0 \mathrm{~mm}$


| Part No. |  | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-S115TGKFKT | $\square$ | Orange | 605 | 112 | 130 | 3.3 | 20 |
|  | $\square$ | True Green | 525 | 112 |  | 2.0 | 20 |
| LTST-S115KGKFKT | - | Orange | 605 | 90 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 35 |  | 2.0 | 20 |
| LTST-S115KGJRKT |  | Red | 631 | 45 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 35 |  | 2.0 | 20 |
| LTW-S115KFDS-5A | $\square$ | Orange | 605 | 40 | 130 | 2.9 | 5 |
|  | $\square$ | White | (0.29, 0.282) | 70 |  | 2.2 | 5 |

Chip LED_Side View_Dual Color

$3.0 \times 2.0 \times 1.0 \mathrm{~mm}$

| Part No. |  | Color | $\lambda_{d}(\mathrm{~nm}) / \mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-S326TBKSKT | - | Yellow | 589 | 90 | 130 | 2.0 | 20 |
|  | - | Blue | 470 | 35 |  | 3.3 | 20 |
| LTST-S326KGKFKT | $\square$ | Orange | 605 | 90 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 35 |  | 2.0 | 20 |
| LTST-S326KGJRKT | $\square$ | Red | 631 | 45 | 130 | 2.0 | 20 |
|  | - | Yellow Green | 571 | 35 |  | 2.0 | 20 |
| LTW-326DSKF-5A | $\square$ | Orange | 605 | 40 | 130 | 2.9 | 5 |
|  | $\square$ | White | (0.3, 0.3) | 70 |  | 2.2 | 5 |

## Chip LED＿Side View＿Dual Color



Chip LED＿Side View＿Multi Color


| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ．Luminous Intensity lv （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST－S33FBEGW－5A | Red | 624 | 180 | 130 | 1.9 | 5 |
|  | True Green | 525 | 112 |  | 2.9 | 5 |
|  | Blue | 470 | 71 |  | 2.9 | 5 |

## Chip LED_Side View_Multi Color



Chip LED_Side View_Multi Color


## Chip LED_Side View_Multi Color



Chip LED_Side View_Multi Color


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity lv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-S32F1KT | Red | 624 | 112 | 130 | 2 | 20 |
|  | True Green | 525 | 180 |  | 3.3 | 20 |
|  | Blue | 470 | 71 |  | 3.3 | 20 |

## PLCC_Top View


$2.0 \times 1.6 \times 0.55 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(n m) /$ <br> $\operatorname{CIE}(x, y)$ | Typ. Luminous Intensity IV (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Max. Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-C0610VEWT | Red | 624 | 1120 | 120 | 2.00 | 20 | 30 |
| LTST-C0610VSWT | Yellow | 589 | 1120 | 120 | 2.00 | 20 | 30 |
| LTST-C0610UGWT | True Green | 525 | 1800 | 120 | 3.20 | 20 | 30 |
| LTST-C0610UBWT | Blue | 470 | 355 | 120 | 3.20 | 20 | 30 |
| LTST-C0610ZWET | White | (0.31, 0.31) | 2240 | 120 | 3.20 | 20 | 30 |

## PLCC_Top View



## PLCC＿Top View



| Part No． | Color | $\lambda_{d}(n m) /$ <br> $\operatorname{CIE}(x, y)$ | Typ．Luminous <br> Flux © v （Im） | View Angle $2 \theta_{1 / 2}$ | Typ． <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ （V） | Forward Current I （mA） | Max． Forward Current $I_{F}$ （mA） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTW－K140RS625 | Red | 625 | 3.1 | 120 | 2.1 | 20 | 30 |
| LTW－K140OS607 | Orange | 607 | 2.8 | 120 | 2.1 | 20 | 30 |
| LTW－K140YS587 | Yellow | 587 | 2.5 | 120 | 2.1 | 20 | 30 |
| LTW－K140GS525 | True Green | 525 | 6.8 | 120 | 3.2 | 20 | 30 |
| LTW－K140BS470 | Blue | 470 | 1.4 | 120 | 3.2 | 20 | 30 |
| LTW－K140SCIB | Ice Blue | （0．24，0．29） | 8 | 120 | 2.9 | 20 | 30 |
| LTW－K140SCTF | Tiffany Blue | $(0.22,0.33)$ | 7.7 | 120 | 2.9 | 20 | 30 |
| LTW－K140SCVL | Violet | （0．32，0．19） | 5 | 120 | 2.9 | 20 | 30 |
| LTW－K140SCSK | Sakura Pink | $(0.45,0.26)$ | 6 | 120 | 2.9 | 20 | 30 |
| LTW－K140SCGD | Gold | $(0.40,0.46)$ | 9.5 | 120 | 2.9 | 20 | 30 |


$3.0 \times 1.4 \times 1.2 \mathrm{~mm}$

$\stackrel{+}{\ddagger}$

| Part No. | Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \operatorname{CIE}(x, y) \end{aligned}$ | Typ. Luminous Intensity Iv (mcd) | Typ. Luminous Flux $\oplus$ v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Max. Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-M140KRKT | Red | 631 | 180 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140QEKT | Red Orange | 624 | 355 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140KFKT | Orange | 605 | 355 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140KSKT | Yellow | 589 | 280 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140QSKT | Yellow | 589 | 355 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140KGKT | Yellow Green | 571 | 112 | - | 120 | 2.0 | 20 | 30 |
| LTST-M140TGKT | True Green | 525 | 560 | - | 120 | 3.2 | 20 | 30 |
| LTST-M140TBKT | Blue | 470 | 280 | - | 120 | 3.2 | 20 | 30 |
| LTW-M140ZVS | White | (0.296, 0.285) | - | 6.5 | 120 | 3.2 | 20 | 30 |

## PLCC＿Top View

$\qquad$


## PLCC_Top View



| Part No. | Color | $\lambda_{d}(n m) /$ <br> $\operatorname{CIE}(x, y)$ | Typ. <br> Luminous Intensity IV (mcd) | Typ. Luminous <br> Flux $\oplus \mathbf{v}$ (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Max. Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-T680KRWT | Red | 631 | 140 | - | 120 | 2.0 | 20 | 30 |
| LTW-670RS625 | Red | 625 | - | 3.1 | 120 | 2.1 | 20 | 30 |
| LTST-T680VEWT | Red | 624 | 1120 | - | 120 | 2.0 | 20 | 30 |
| LTST-T680QEWT | Red | 624 | 710 | - | 120 | 2.0 | 20 | 30 |
| LTW-6700S607 | Orange | 607 | - | 2.8 | 120 | 2.1 | 20 | 30 |
| LTST-T680KFWT | Orange | 605 | 224 | - | 120 | 2.0 | 20 | 30 |
| LTST-T680KSWT | Yellow | 589 | 224 | - | 120 | 2.0 | 20 | 30 |
| LTST-T680VSWT | Yellow | 589 | 1120 | - | 120 | 2.0 | 20 | 30 |
| LTST-T680QSWT | Yellow | 589 | 710 | - | 120 | 2.0 | 20 | 30 |
| LTW-670YS587 | Yellow | 587 | - | 2.5 | 120 | 2.1 | 20 | 30 |
| LTST-T680KGWT | Yellow Green | 571 | 90 | - | 120 | 2.0 | 20 | 30 |
| LTST-T680TGWT | True Green | 525 | 710 | - | 120 | 3.2 | 20 | 30 |
| LTST-T680UGWT | True Green | 525 | 1120 | - | 120 | 3.2 | 20 | 30 |
| LTW-670GS525 | True Green | 525 | - | 6.1 | 120 | 3.2 | 20 | 30 |
| LTST-T680UBWT | Blue | 470 | 355 | - | 120 | 3.2 | 20 | 30 |
| LTW-670BS470 | Blue | 470 | - | 1.4 | 120 | 3.2 | 20 | 30 |
| LTW-670DS-EL | White | (0.31, 0.30) | 2500 | - | 120 | 3.2 | 20 | 30 |
| LTST-T680UWET | White | (0.31, 0.31) | 2240 | - | 120 | 3.2 | 20 | 30 |

## PLCC_Top View



## PLCC_Top View



## PLCC_Top View



## PLCC_Top View_Dual Color



## PLCC_Top View_Multi Color



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current $I_{F}$ (mA) | Max. Forward Current IF (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-G683GEBW | Red | 624 | 710 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 1400 | 120 | 3.2 | 20 | 30 |
|  | Blue | 470 | 280 | 120 | 3.2 | 20 | 30 |
| LTST-G683RGBW | Red | 624 | 140 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 450 | 120 | 3.2 | 20 | 30 |
|  | Blue | 470 | 224 | 120 | 3.2 | 20 | 30 |
| LTST-G683ESBW | Red | 624 | 710 | 120 | 2.0 | 20 | 30 |
|  | Yellow | 590 | 710 | 120 | 2.0 | 20 | 30 |
|  | Blue | 470 | 280 | 120 | 3.2 | 20 | 30 |

## PLCC_Top View_Multi Color


$3.5 \times 2.8 \times 1.9 \mathrm{~mm}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity IV (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Max. <br> Forward Current IF (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-E683RGBW | Red | 631 | 140 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 710 | 120 | 3.2 | 20 | 30 |
|  | Blue | 470 | 224 | 120 | 3.2 | 20 | 30 |
| LTST-E683FGBW | Orange | 605 | 280 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 710 | 120 | 3.2 | 20 | 30 |
|  | Blue | 470 | 224 | 120 | 3.2 | 20 | 30 |
| LTST-E683EGSW | Red | 631 | 224 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 450 | 120 | 3.2 | 20 | 30 |
|  | Yellow | 590 | 224 | 120 | 2.0 | 20 | 30 |
| LTST-E683EGBW | Red | 631 | 71 | 120 | 2.0 | 20 | 30 |
|  | True Green | 525 | 450 | 120 | 3.2 | 20 | 30 |
|  | Blue | 470 | 140 | 120 | 3.2 | 20 | 30 |

## PLCC_Top View_Multi Color



## PLCC_Top View_Multi Color



## PLCC_Top View_Multi Color



## PLCC_Top View_Multi Color



## PLCC_Side View



## PLCC_Side View



| Part No. | Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \text { CIE }(x, y) \end{aligned}$ | Typ. Luminous Intensity IV (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current IF (mA) | Max. Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-010KRKT | Red | 631 | 180 | 120 | 2 | 20 | 30 |
| LTW-010SCR | Red | 620 | 720 | 120 | 2.2 | 20 | 30 |
| LTST-010KFKT | Orange | 605 | 180 | 120 | 2 | 20 | 30 |
| LTST-010KSKT | Yellow | 589 | 280 | 120 | 2 | 20 | 30 |
| LTST-010KGKT | Yellow Green | 571 | 112 | 120 | 2 | 20 | 30 |
| LTW-010SCG | True Green | 525 | 2400 | 120 | 3.0 | 20 | 30 |
| LTST-010TGKT | True Green | 525 | 450 | 120 | 3.2 | 20 | 30 |
| LTST-010TBKT | Blue | 470 | 140 | 120 | 3.2 | 20 | 30 |
| LTW-010SCB | Blue | 465 | 500 | 120 | 3.0 | 20 | 30 |
| LTW-010DCG | White | (0.300, 0.283) | 2100 | 120 | 3.1 | 20 | 30 |
| LTW-010DCG-TR | White | (0.293, 0.283) | 2500 | 120 | 3.0 | 20 | 30 |
| LTW-010SCSK | Sakura Pink | (0.45, 0.26) | 1700 | 120 | 3.0 | 20 | 30 |
| LTW-010SCVL | Violet | (0.32, 0.19) | 1700 | 120 | 3.0 | 20 | 30 |

## PLCC_Side View



## PLCC_Side View



## PLCC_Side View

| $2.8 \times 1.2 \times 0.8 \mathrm{~mm}$ <br> $2.85 \times 1.2 \times 0.8 \mathrm{~mm}$ (LTW-108DCG only ) |  |  |  | 2.8 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $2.5$ |  |  |  |
| Part No. | Color |  | $\lambda_{d}(n m) /$ <br> $\operatorname{CIE}(x, y)$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current IF (mA) | Max. Forward Current IF (mA) |
| LTST-108KRKT | Red | 631 | 180 | 120 | 2 | 20 | 30 |
| LTST-108KFKT | Orange | 605 | 180 | 120 | 2 | 20 | 30 |
| LTST-108KSKT | Yellow | 589 | 280 | 120 | 2 | 20 | 30 |
| LTST-108KGKT | Yellow Green | 571 | 140 | 120 | 2 | 20 | 30 |
| LTST-108TGKT | True Green | 525 | 710 | 120 | 3.2 | 20 | 30 |
| LTST-108TBKT | Blue | 470 | 180 | 120 | 3.2 | 20 | 30 |
| LTW-008ZDCG | White | (0.295, 0.273) | 1200 | 120 | 3.1 | 20 | 30 |
| LTW-108SEG-W | White | (0.295, 0.280) | 2200 | 120 | 3.1 | 20 | 30 |

## PLCC_Side View_Dual Color

|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | $\lambda_{\mathrm{d}}(\mathrm{nm})$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current IF (mA) | Max. Forward Current $I_{F}$ (mA) |
| LTST-008TGKEWT | Red | 624 | 450 | 120 | 2 | 20 | 30 |
|  | True Green | 525 | 710 |  | 3.2 | 20 | 30 |

## PLCC_Side View_Multi Color

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## PLCC_Side View_Multi Color



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Intensity Iv (mcd) | Typ. Luminous Flux © v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $V_{F}$ (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Max. Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-008BGEW | $\square$ Red | 624 | 450 | - | 120 | 2 | 20 | 30 |
|  | - True Green | 525 | 710 | - |  | 3.2 | 20 | 30 |
|  | - Blue | 470 | 180 | - |  | 3.2 | 20 | 30 |
| LTST-008GEBW | - True Green | 525 | 1400 | - | 120 | 3.2 | 20 | 30 |
|  | $\square$ Red | 624 | 710 | - |  | 2 | 20 | 30 |
|  | $\square$ Blue | 470 | 350 | - |  | 3.2 | 20 | 30 |
| LTST-008EGSW | - Red | 624 | 710 | - | 120 | 2 | 20 | 30 |
|  | - True Green | 525 | 1120 | - |  | 3.2 | 20 | 30 |
|  | - Yellow | 589 | 710 | - |  | 2 | 20 | 30 |
| LTW-008RGB2-PH1 | - Blue | 465 | - | 9 | 120 | 2.1 | 25 | 30 |
|  | - True Green | 525 | - |  |  | 3.2 | 30 | 30 |
|  | $\square$ Red | 620 | - |  |  | 3.1 | 15 | 30 |

## Through Hole Lamp

## 3mm


## 3mm



## 3mm



## 3mm



| Part No. |  | Color | Resin Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \text { CIE }(x, y) \end{aligned}$ | Min. Luminous Intensity Iv (mcd) | Max. Luminous Intensity lv (mcd) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current IF (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTL42NKRKNN |  | Super Red | Water Clear | 631 | 110 | 520 | 56 | 2.1 | 20 |
| LTL42NKFKNN | - | Amber | Water Clear | 605 | 140 | 680 | 56 | 2.1 | 20 |
| LTL42NKSKNN | - | Yellow | Water Clear | 587 | 180 | 710 | 56 | 2.1 | 20 |
| LTL42NKGKNN | $\square$ | Yellow Green | Water Clear | 571 | 140 | 680 | 56 | 2.1 | 20 |
| LTL42TG6N | - | True Green | Water Clear | 530 | 600 | 3390 | 45 | 3.5 | 20 |
| LTL42TB6N | $\square$ | Blue | Water Clear | 470 | 310 | 1500 | 45 | 3.5 | 20 |
| LTW-42NDP4 | $\square$ | White | Water Clear | $(0.3,0.3)$ | 400 | 1900 | 45 | 3.3 | 20 |

## 3mm_Dual Color



## 3mm＿Dual Color



| Part No． |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

4mm


5mm

| 5 mm Round |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. |  | Color | Resin Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \text { CIE }(x, y) \end{aligned}$ | Min. <br> Luminous Intensity Iv (mcd) | Max. Luminous Intensity lv (mcd) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
| LTL2R3KRK |  | Red | Water Clear | 631 | 310 | 1500 | 30 | 2 | 20 |
| LTL2R3KFK |  | Orange | Water Clear | 605 | 240 | 1150 | 30 | 2 | 20 |
| LTL2R3KSK |  | Yellow | Water Clear | 589 | 180 | 1150 | 30 | 2 | 20 |
| LTL2R3KG |  | Yellow Green | Water Clear | 572 | 85 | 400 | 30 | 2 | 20 |
| LTL2T3TGK6 |  | True Green | Water Clear | 525 | 1900 | 9300 | 30 | 3.2 | 20 |
| LTL2T3TBK5 |  | Blue | Water Clear | 470 | 520 | 3200 | 30 | 3.2 | 20 |
| LTW-2L3DV5 |  | White | Water Clear | (0.29, 0.28) | 2500 | 9300 | 30 | 3.2 | 20 |
| LTW-2S3D8 | $\square$ | White | Water Clear | $(0.3,0.3)$ | 13000 | 29000 | 15 | 3.2 | 20 |
| LTW-2V3DS3 | $\square$ | White | Water Clear | $(0.3,0.3)$ | 1150 | 3200 | 30 | 3.2 | 20 |
| LTW-2W3DRA | $\square$ | White | Water Clear | (0.3, 0.3) | 1150 | 3200 | 100 | 3.2 | 20 |

## 5mm_Dual Color

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | Resin Color | $\lambda_{d}(\mathrm{~nm})$ | Min. <br> Luminous Intensity lv (mcd) | Max. <br> Luminous Intensity Iv (mcd) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) |
| LTL30EGCBKJ | Yellow Green | White Diffused | 571 | 240 | 880 | 30 | 3.2 | 20 |
|  | Blue |  | 470 | 140 | 520 |  | 2.1 |  |
| LTL30EJ9NN | Yellow | White Diffused | 592 | 38 | 450 | 30 | 2.1 | 20 |
|  | Yellow Green |  | 569 | 38 | 450 |  | 2.1 |  |
| LTL30EKDFGJ | Red | White Diffused | 639 | 110 | 310 | 30 | 2.1 | 20 |
|  | Yellow Green |  | 569 | 38 | 85 |  | 2.1 |  |

5mm_0.5W


RGB Lamp


Circuit Board Indicator (CBI)_Single Level


## Circuit Board Indicator (CBI)_Single Level



Circuit Board Indicator (CBI)_Single Level

|  | I |  |  |  | NOM. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | Resin Color | $\lambda_{d}(\mathrm{~nm})$ | Min. Luminous Intensity IV (mcd) | Max. <br> Luminous Intensity IV (mcd) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) |
| LTL-42NEW8DHBP-1 | Red | Red Diffused | 625 | 3.8 | 30 | 80 | 2.0 | 10 |

Circuit Board Indicator (CBI)_Single Level


## Circuit Board Indicator (CBI)_Single Level



Circuit Board Indicator (CBI)_Single Level


## Circuit Board Indicator (CBI)_Single Level



## Circuit Board Indicator（CBI）＿Single Level



Circuit Board Indicator（CBI）＿Bi－Level


Circuit Board Indicator (CBI)_Bi-Level


Circuit Board Indicator (CBI)_Bi-Level

|  |  |  |  |  <br> commended P.C. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | Resin Color | $\lambda_{d}(\mathrm{~nm})$ | Min. Luminous Intensity lv (mcd) | Max. Luminous Intensity I (mcd) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
| LTL-42NGY8D2H214 | Yellow Green | Color Diffused | 572 | 8.7 | 180 | 100 | 2 | 10 |

Circuit Board Indicator (CBI)_Bi-Level


## Circuit Board Indicator (CBI)_Tri-Level

|  |  |  |  |  | 4 TYP. <br> .016) <br> $\sim 0.9$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | Resin Color | $\lambda_{\text {d }}(\mathrm{nm})$ | Min. Luminous Intensity Iv (mcd) | Max. Luminous Intensity Iv (mcd) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
| LTL-42M3NHKP | - Yellow Green | Green Diffused | 569 | 7 | - | 60 | 2.1 | 20 |

Circuit Board Indicator (CBI)_Quad-Level


## Circuit Board Indicator (CBI)_Quin-Level



Circuit Board Indicator (CBI)_PIP


## Circuit Board Indicator (CBI)_PIP



Circuit Board Indicator (CBI)_PIP


## Circuit Board Indicators (CBI) with SMD LED



| Part No. | Color | Resin Color | $\lambda_{\mathrm{d}}(\mathrm{nm})$ | Min. Luminous Intensity Iv (mcd) | Max. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current IF (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTL-M12RG1H300Q | Red | White Diffused | 630 | 4.5 | 50 | 120 | 2 | 20 |
|  | - Yellow Green |  | 570 |  |  |  |  |  |

## Circuit Board Indicators（CBI）with SMD LED

| Part No． | Color | Resin Color | $\lambda_{d}(\mathrm{~nm})$ | Min． <br> Luminous Intensity Iv （mcd） | Max． <br> Luminous Intensity Iv （mcd） | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}$ （V） | Forward Current IF （mA） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTL－M12YG1H300Q | Yellow | White Diffused |  | 4.5 | 50 | 120 | 2 | 20 |
|  | Yellow Green |  | 570 |  |  |  |  |  |

## LED Display Quick View Table

## Numeric Display

| Product Type | Digit | 5.08 mm | 7 mm | 7.62 mm | 8 mm | 9 mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Through Hole Type | Single Digit |  | $\begin{aligned} & \text { LTS-2301(CC) } \\ & \text { LTS-2801(CA) } \end{aligned}$ | $\begin{aligned} & \text { LTS-3361(CC) } \\ & \text { LTS-3861(CA) } \end{aligned}$ | LTS-3385(CC) <br> LTS-3885(CA) |  |
|  | Dual Digits |  | $\begin{aligned} & \text { LTD-2601(CA) } \\ & \text { LTD-2701(CC) } \end{aligned}$ | $\begin{aligned} & \text { LTD-322(CC) } \\ & \text { LTD-323(CA) } \end{aligned}$ | - |  |
|  | Triple Digits |  | LTC-2621(CA) <br> LTC-2721(CC) | - | - |  |
|  | Quadruple Digits | LTC-26C7 (CA) | LTC-2623(CA) <br> LTC-2723(CC) <br> LTC-2650(CA) <br> LTC-2750(CC) | LTC-3710(CC) |  |  |
|  | Quintuple Digits | LTF-2606 (CA) | LTF-2505 (CA) |  |  |  |
| SMD Type | Single Digit | LTS-2307(CC) LTS-2807(CA) | LTS-2306(CC) <br> LTS-2806(CA) | $\begin{aligned} & \text { LTS-3386 (CC) } \\ & \text { LTS-3886 (CA) } \end{aligned}$ |  |  |
|  | Dual Digits | LTD-2404 (CA) |  |  |  |  |
|  | Triple Digits |  |  |  |  |  |


| 9.14 mm | 10 mm | 13.2 mm | 14.22 mm | 18.4 mm | 20 mm | 25.4 mm | 57 mm |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { LTS-360 (CA) } \\ & \text { LTS-367 (CC) } \end{aligned}$ | $\begin{aligned} & \text { LTS-4301(CC) } \\ & \text { LTS-4801(CA) } \end{aligned}$ | $\begin{aligned} & \text { LTS-546(CC) } \\ & \text { LTS-547(CA) } \end{aligned}$ | LTS-5x01 (CA) <br> LTS-5x03(CC) |  |  | LTS-10304(CC) <br> LTS-10804(CA) | LTS-23305(CC) <br> LTS-23805(CA) |
|  | $\begin{aligned} & \text { LTD-4608(CA) } \\ & \text { LTD-4708(CC) } \end{aligned}$ | $\begin{aligned} & \text { LTD-5250(CA) } \\ & \text { LTD-5260(CC) } \end{aligned}$ | LTD-5x21(CA) <br> LTD-5×23(CC) <br> LTD-6610(CA) <br> LTD-6410(CC) |  | $\begin{aligned} & \text { LTD-8302(CC) } \\ & \text { LTD-8802(CA) } \end{aligned}$ |  | - |
|  | $\begin{aligned} & \text { LTC-4624(CA) } \\ & \text { LTC-4724(CC) } \end{aligned}$ |  | LTC-561(CA) <br> LTC-571(CC) | LTC-7500(CC) |  |  | - |
|  | LTC-4627(CA) LTC-4727(CC) LTC-46D2(CA) |  | LTC-57C7(CC) <br> LTC-5623(CA) <br> LTC-5723(CC) <br> LTC-5653(CA) <br> LTC-5753(CC) |  | - |  | - |

LTS-4312(CC)
LTS-4812(CA)
LTS-4317(CC)
LTS-4817(CA)

LTD-4516(CC)
LTS-5325(CC)
LTS-5825(CA)
LTS-481

LTD-5435(CA)

LTC-46F6 (CA)

## Numeric Display_Single Digit



| Part No. | Color | $\lambda_{\text {d }}(\mathrm{nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-2301AJD | Hyper Red | 639 | Common Cathode, Rt.Hand Decimal | 600 |
| LTS-2301AJR | Super Red | 631 |  | 600 |
| LTS-2301AKF | Orange | 605 |  | 1200 |
| LTS-2301AKS | Yellow | 587 |  | 800 |
| LTS-2301AKG | Yellow Green | 572 |  | 800 |
| LTS-2301ATB | Blue | 470 |  | 10500 |
| LTS-2801AJD | Hyper Red | 639 | Common Anode, Rt.Hand Decimal | 600 |
| LTS-2801AJR | Super Red | 631 |  | 600 |
| LTS-2801AKF | Orange | 605 |  | 1200 |
| LTS-2801AKS | Yellow | 587 |  | 800 |
| LTS-2801AKG | Yellow Green | 572 |  | 800 |
| LTS-2801ATB | Blue | 470 |  | 10500 |

## Numeric Display＿Single Digit



| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ．Luminous Intensity Iv／Seg ＠ $\mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS－3361JD | Hyper Red | 639 | Common Cathode，Rt．Hand Decimal | 600 |
| LTS－3361JR | Super Red | 631 |  | 600 |
| LTS－3361JF | Orange | 605 |  | 1200 |
| LTS－3361JS | Yellow | 587 |  | 800 |
| LTS－3361JG | Yellow Green | 572 |  | 800 |
| LTS－3361TB | Blue | 470 |  | 10500 |
| LTS－3861JD | Hyper Red | 639 | Common Anode，Rt．Hand Decimal | 600 |
| LTS－3861JR | Super Red | 631 |  | 600 |
| LTS－3861JF | Orange | 605 |  | 1200 |
| LTS－3861JS | Yellow | 587 |  | 800 |
| LTS－3861JG | Yellow Green | 572 |  | 800 |
| LTS－3861TB | Blue | 470 |  | 10500 |

## Numeric Display_Single Digit



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-3385KD | Hyper Red | 639 | Common Cathode, Rt. Hand Decimal | 900 |
| LTS-3385KR | Super Red | 631 |  | 900 |
| LTS-3385KF | Orange | 605 |  | 1200 |
| LTS-3385KS | Yellow | 587 |  | 1200 |
| LTS-3385KG | Yellow Green | 572 |  | 1200 |
| LTS-3385TBE | Blue | 470 |  | 10500 |
| LTS-3885KD | Hyper Red | 639 | Common Anode, Rt. Hand Decimal | 900 |
| LTS-3885KR | Super Red | 631 |  | 900 |
| LTS-3885KF | Orange | 605 |  | 1200 |
| LTS-3885KS | Yellow | 587 |  | 1200 |
| LTS-3885KG | Yellow Green | 572 |  | 1200 |
| LTS-3885TBE | Blue | 470 |  | 10500 |

## Numeric Display_Single Digit



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ l_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-360KR | Hyper Red | 639 | Common Anode, Rt. Hand Decimal | 975 |
| LTS-360KD | Super Red | 631 |  | 975 |
| LTS-360KF | Orange | 605 |  | 1200 |
| LTS-360KS | Yellow | 587 |  | 1200 |
| LTS-360KG | Yellow Green | 572 |  | 1200 |
| LTS-367KR | Hyper Red | 639 | Common Cathode, Rt. Hand Decimal | 900 |
| LTS-367KD | Super Red | 631 |  | 900 |
| LTS-367KF | Orange | 605 |  | 1200 |
| LTS-367KS | Yellow | 587 |  | 1200 |
| LTS-367KG | Yellow Green | 572 |  | 1200 |

## Numeric Display_Single Digit



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-4301JD | Hyper Red | 639 | Common Cathode, Rt.Hand Decimal | 650 |
| LTS-4301JR | Super Red | 631 |  | 650 |
| LTS-4301JF | Orange | 605 |  | 1300 |
| LTS-4301JS | Yellow | 587 |  | 850 |
| LTS-4301JG | Yellow Green | 572 |  | 850 |
| LTS-4301TB | Blue | 470 |  | 10500 |
| LTS-4801JD | Hyper Red | 639 | Common Anode, Rt.Hand Decimal | 650 |
| LTS-4801JR | Super Red | 631 |  | 650 |
| LTS-4801JF | Orange | 605 |  | 1300 |
| LTS-4801JS | Yellow | 587 |  | 850 |
| LTS-4801JG | Yellow Green | 572 |  | 850 |
| LTS-4801TB | Blue | 470 |  | 10500 |

## Numeric Display＿Single Digit



| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ．Luminous Intensity Iv／Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS－546AJD | Hyper Red | 639 | Common Anode，Rt．Hand Decimal | 700 |
| LTS－546AKR | Super Red | 631 |  | 700 |
| LTS－546AKF | Orange | 605 |  | 1600 |
| LTS－546AKS | Yellow | 587 |  | 900 |
| LTS－546AJG | Yellow Green | 572 |  | 900 |
| LTS－546TB | Blue | 470 |  | 10500 |
| LTS－547AJD | Hyper Red | 639 | Common Cathode，Rt．Hand Decimal | 700 |
| LTS－547AJR | Super Red | 631 |  | 700 |
| LTS－547AKF | Orange | 605 |  | 1600 |
| LTS－547AKS | Yellow | 587 |  | 900 |
| LTS－547AJG | Yellow Green | 572 |  | 900 |
| LTS－547TB | Blue | 470 |  | 10500 |

## Numeric Display_Single Digit



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-5001AJD | Hyper Red | 639 | Common Anode, Rt.Hand Decimal | 700 |
| LTS-5001AJR | Super Red | 631 |  | 700 |
| LTS-5701AKF | Orange | 605 |  | 1600 |
| LTS-5701AJS | Yellow | 587 |  | 900 |
| LTS-5601AJG | Yellow Green | 572 |  | 900 |
| LTS-5501ATB | Blue | 470 |  | 10500 |
| LTS-5003AJD | Hyper Red | 639 | Common Cathode, Rt.Hand Decimal | 700 |
| LTS-5003AJR | Super Red | 631 |  | 700 |
| LTS-5703AKF | Orange | 605 |  | 1600 |
| LTS-5703AJS | Yellow | 587 |  | 900 |
| LTS-5603AJG | Yellow Green | 572 |  | 900 |
| LTS-5503ATB | Blue | 470 |  | 10500 |

## Numeric Display＿Single Digit



| Part No． | Color | $\lambda_{d}(n m)$ | Description | Typ．Luminous Intensity Iv／Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS－10304KD | Hyper Red | 639 | Common Cathode，Rt．Hand Decimal | 1800 |
| LTS－10304KR | Super Red | 631 |  | 1800 |
| LTS－10304KF | Orange | 605 |  | 2400 |
| LTS－10304KS | Yellow | 587 |  | 2400 |
| LTS－10304KG | Yellow Green | 572 |  | 2400 |
| LTS－10304TBE | Blue | 470 |  | 25000 |
| LTS－10804KD | Hyper Red | 639 | Common Anode，Rt．Hand Decimal | 1800 |
| LTS－10804KR | Super Red | 631 |  | 1800 |
| LTS－10804KF | Orange | 605 |  | 2400 |
| LTS－10804KS | Yellow | 587 |  | 2400 |
| LTS－10804KG | Yellow Green | 572 |  | 2400 |
| LTS－10804TBE | Blue | 470 |  | 25000 |

## Numeric Display_Single Digit



| Part No. |  | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTS-23305KD | - | Hyper Red | 639 | Common Cathode, Rt. \& Lt. Hand Decimal | 10 |
| LTS-23305KR | $\square$ | Super Red | 631 |  | 10 |
| LTS-23305KF | $\square$ | Orange | 605 |  | 10 |
| LTS-23305KS | - | Yellow | 587 |  | 10 |
| LTS-23305JG | - | Yellow Green | 572 |  | 10 |
| LTS-23805KD | - | Hyper Red | 639 | Common Anode, Rt. \& Lt. Hand Decimal | 10 |
| LTS-23805KR | - | Super Red | 631 |  | 10 |
| LTS-23805KF | - | Orange | 605 |  | 10 |
| LTS-23805KS | $\square$ | Yellow | 587 |  | 10 |
| LTS-23805JG | - | Yellow Green | 572 |  | 10 |

## Numeric Display_Dual Digits



## Numeric Display_Dual Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD-322JD | Hyper Red | 639 | Duplex Common Cathode, Rt.Hand Decimal | 600 |
| LTD-322KR | Super Red | 631 |  | 600 |
| LTD-322KF | Orange | 605 |  | 1200 |
| LTD-322KS | Yellow | 587 |  | 800 |
| LTD-322JG | Yellow Green | 572 |  | 800 |
| LTD-322TB | Blue | 470 |  | 7000 |
| LTD-323JD | Hyper Red | 639 | Duplex Common Anode, Rt.Hand Decimal | 600 |
| LTD-323KR | Super Red | 631 |  | 600 |
| LTD-323KF | Orange | 605 |  | 1200 |
| LTD-323KS | Yellow | 587 |  | 800 |
| LTD-323JG | Yellow Green | 572 |  | 800 |
| LTD-323TB | Blue | 470 |  | 7000 |

## Numeric Display＿Dual Digits



| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ．Luminous Intensity Iv／Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD－4608JD | Hyper Red | 639 | Duplex Common Anode，Rt．Hand Decimal | 650 |
| LTD－4608KR | Super Red | 631 |  | 650 |
| LTD－4608KF | Orange | 605 |  | 1300 |
| LTD－4608JS | Yellow | 587 |  | 850 |
| LTD－4608JG | Yellow Green | 572 |  | 850 |
| LTD－4608TB | Blue | 470 |  | 7000 |
| LTD－4708JD | Hyper Red | 639 | Duplex Common Cathode，Rt．Hand Decimal | 650 |
| LTD－4708KR | Super Red | 631 |  | 650 |
| LTD－4708KF | Orange | 605 |  | 1300 |
| LTD－4708JS | Yellow | 587 |  | 850 |
| LTD－4708JG | Yellow Green | 572 |  | 850 |
| LTD－4708TB | Blue | 470 |  | 7000 |

## Numeric Display_Dual Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD-5250JD | Hyper Red | 639 | Common Anode, Rt.Hand Decimal | 700 |
| LTD-5250KR | Super Red | 631 |  | 700 |
| LTD-5250KF | Orange | 605 |  | 1600 |
| LTD-5250KS | Yellow | 587 |  | 900 |
| LTD-5250KG | Yellow Green | 572 |  | 900 |
| LTD-5250TB | Blue | 470 |  | 7000 |
| LTD-5260KD | Hyper Red | 639 | Common Cathode, Rt.Hand Decimal | 700 |
| LTD-5260KR | Super Red | 631 |  | 700 |
| LTD-5260KF | Orange | 605 |  | 1600 |
| LTD-5260KS | Yellow | 587 |  | 900 |
| LTD-5260KG | Yellow Green | 572 |  | 900 |
| LTD-5260TB | Blue | 470 |  | 7000 |

## Numeric Display_Dual Digits



## Numeric Display_Dual Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{l}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD-6410KD | Hyper Red | 639 | Common Cathode, Rt.Hand Decimal | 700 |
| LTD-6410KR | Super Red | 631 |  | 700 |
| LTD-6410KF | Orange | 605 |  | 1600 |
| LTD-6410KS | Yellow | 587 |  | 900 |
| LTD-6410KG | Yellow Green | 572 |  | 900 |
| LTD-6410TB | Blue | 470 |  | 7000 |
| LTD-6610KD | Hyper Red | 639 | Common Anode, Rt.Hand Decimal | 700 |
| LTD-6610KR | Super Red | 631 |  | 700 |
| LTD-6610KF | Orange | 605 |  | 1600 |
| LTD-6610KS | Yellow | 587 |  | 900 |
| LTD-6610KG | Yellow Green | 572 |  | 900 |
| LTD-6610TB | Blue | 470 |  | 7000 |

## Numeric Display＿Dual Digits



| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ．Luminous Intensity Iv／Seg $@ l_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD－8302KR | Hyper Red | 639 | Duplex Common Cathode，Rt．Hand Decimal | 1050 |
| LTD－8302KF | Super Red | 631 |  | 1600 |
| LTD－8302KS | Orange | 605 |  | 900 |
| LTD－8302KG | Yellow | 587 |  | 900 |
| LTD－8302KD | Yellow Green | 572 |  | 1500 |
| LTD－8302TB | Blue | 470 |  | 7000 |
| LTD－8802KR | Hyper Red | 639 | Duplex Common Anode，Rt．Hand Decimal | 1050 |
| LTD－8802KF | Super Red | 631 |  | 1600 |
| LTD－8802KS | Orange | 605 |  | 900 |
| LTD－8802KG | Yellow | 587 |  | 900 |
| LTD－8802KD | Yellow Green | 572 |  | 1500 |
| LTD－8802TB | Blue | 470 |  | 7000 | $@ l_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$

## Numeric Display_Triple Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg @ $\mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTC-2621JD | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 600 |
| LTC-2621JR | Super Red | 631 |  | 600 |
| LTC-2621KF | Orange | 605 |  | 1200 |
| LTC-2621KS | Yellow | 587 |  | 800 |
| LTC-2621JG | Yellow Green | 572 |  | 800 |
| LTC-2621TB | Blue | 470 |  | 7000 |
| LTC-2721JD | Hyper Red | 639 | Multiplex Common Cathode, Rt.Hand Decimal | 700 |
| LTC-2721JR | Super Red | 631 |  | 700 |
| LTC-2721KF | Orange | 605 |  | 1600 |
| LTC-2721KS | Yellow | 587 |  | 900 |
| LTC-2721JG | Yellow Green | 572 |  | 900 |
| LTC-2721TB | Blue | 470 |  | 7000 |

## Numeric Display_Triple Digits



## Numeric Display_Triple Digits


14.22 mm (.56")
Dual-In-Line
$.75^{\prime \prime} \mathrm{H} \times 1.5^{\prime \prime}$ W x $.32^{\prime \prime}$ D


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTC-561JD | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 700 |
| LTC-561KR | Super Red | 631 |  | 700 |
| LTC-561KF | Orange | 605 |  | 1600 |
| LTC-561KS | Yellow | 587 |  | 900 |
| LTC-561JG | Yellow Green | 572 |  | 900 |
| LTC-561TB | Blue | 470 |  | 13500 |
| LTC-571JD | Hyper Red | 639 | Multiplex Common Cathode, Rt.Hand Decimal | 700 |
| LTC-571KR | Super Red | 631 |  | 700 |
| LTC-571KF | Orange | 605 |  | 1600 |
| LTC-571KS | Yellow | 587 |  | 900 |
| LTC-571JG | Yellow Green | 572 |  | 900 |
| LTC-571TB | Blue | 470 |  | 13500 |

## Numeric Display_Triple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display＿Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



## Numeric Display_Quadruple Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTC-5623JD | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 700 |
| LTC-5623KR | Super Red | 631 |  | 700 |
| LTC-5623KF | Orange | 605 |  | 1600 |
| LTC-5623KS | Yellow | 587 |  | 900 |
| LTC-5623JG | Yellow Green | 572 |  | 900 |
| LTC-5623TB | Blue | 470 |  | 13500 |
| LTC-5723JD | Hyper Red | 639 | Multiplex Common Cathode, Rt.Hand Decimal | 700 |
| LTC-5723KR | Super Red | 631 |  | 700 |
| LTC-5723KF | Orange | 605 |  | 1600 |
| LTC-5723KS | Yellow | 587 |  | 900 |
| LTC-5723JG | Yellow Green | 572 |  | 900 |
| LTC-5723TB | Blue | 470 |  | 13500 |

## Numeric Display_Quadruple Digits



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTC-5653KD-01 | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 700 |
| LTC-5653KR-01 | Super Red | 631 |  | 700 |
| LTC-5653KF-01 | Orange | 605 |  | 1600 |
| LTC-5653KS-01 | Yellow | 587 |  | 900 |
| LTC-5653KG-01 | Yellow Green | 572 |  | 900 |
| LTC-5653TB-01 | Blue | 470 |  | 13500 |
| LTC-5753KD-01 | Hyper Red | 639 | Multiplex Common Cathode, Rt.Hand Decimal | 700 |
| LTC-5753KR-01 | Super Red | 631 |  | 700 |
| LTC-5753KF-01 | Orange | 605 |  | 1600 |
| LTC-5753KS-01 | Yellow | 587 |  | 900 |
| LTC-5753KG-01 | Yellow Green | 572 |  | 900 |
| LTC-5753TB-01 | Blue | 470 |  | 13500 |

## Numeric Display_Quintuple Digits

Typ. Luminous Intensity Iv/Seg $@ l_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$

| LTF-2606KD | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 700 |
| :---: | :---: | :---: | :---: | :---: |
| LTF-2606KR | Super Red | 631 |  | 650 |
| LTF-2606KF | Orange | 605 |  | 1600 |
| LTF-2606KS | Yellow | 587 |  | 900 |
| LTF-2606KG | Yellow Green | 572 |  | 900 |

## Numeric Display_Quintuple Digits


$6.8 \mathrm{~mm}\left(.26^{\prime \prime}\right)$
Dual-In-Line

$$
.39^{\prime \prime} \mathrm{H} \times 1.18^{\prime \prime} \mathrm{W} \times .24^{\prime \prime} \mathrm{D}
$$



| Part No. | Color | $\lambda_{\text {d }}(\mathrm{nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTF-2505KD | Hyper Red | 639 | Multiplex Common Anode, Rt.Hand Decimal | 700 |
| LTF-2505KR | Super Red | 631 |  | 900 |
| LTF-2505KF | Orange | 605 |  | 1600 |
| LTF-2505KS | Yellow | 587 |  | 900 |
| LTF-2505KG | Yellow Green | 572 |  | 900 |

## Numeric Display_SMD Type



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=2 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-2307CKD-P | Hyper Red | 639 | Common Cathode | 560 |
| LTS-2307CKR-P | Super Red | 631 |  | 560 |
| LTS-2307CKF-P | Orange | 605 |  | 720 |
| LTS-2307CKS-P | Yellow | 587 |  | 720 |
| LTS-2307CKG-P | Yellow Green | 572 |  | 720 |
| LTS-2307TBE-P | Blue | 470 |  | 3500 |
| LTS-2807CKG-P | Yellow Green | 572 | Common Anode | 720 |
| LTS-2807CKD-P | Hyper Red | 639 |  | 560 |
| LTS-2807CKR-P | Super Red | 631 |  | 560 |
| LTS-2807CKF-P | Orange | 605 |  | 720 |
| LTS-2807CKS-P | Yellow | 587 |  | 720 |
| LTS-2807TBE-P | Blue | 470 |  | 3500 |

## Numeric Display_SMD Type



## Numeric Display_SMD Type



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-3386CKD-P | Hyper Red | 639 | Common Cathode | 650 |
| LTS-3386CKR-P | Super Red | 631 |  | 650 |
| LTS-3386CKF-P | Orange | 605 |  | 650 |
| LTS-3386CKS-P | Yellow | 587 |  | 650 |
| LTS-3386CKG-P | Yellow Green | 572 |  | 650 |
| LTS-3386CTB-P | Blue | 470 |  | 7000 |
| LTS-3886CKD-P | Hyper Red | 639 | Common Anode | 650 |
| LTS-3886CKR-P | Super Red | 631 |  | 650 |
| LTS-3886CKF-P | Orange | 605 |  | 650 |
| LTS-3886CKS-P | Yellow | 587 |  | 650 |
| LTS-3886CKG-P | Yellow Green | 572 |  | 650 |
| LTS-3886CTB-P | Blue | 470 |  | 7000 |

## Numeric Display＿SMD Type



| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ．Luminous Intensity Iv／Seg $@ \mathrm{l}_{\mathrm{F}}=2 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS－4312CKD－PM | Hyper Red | 639 | Common Cathode | 639 |
| LTS－4312CKR－PM | Super Red | 631 |  | 639 |
| LTS－4312CKF－PM | Orange | 605 |  | 830 |
| LTS－4312CKS－PM | Yellow | 587 |  | 830 |
| LTS－4312CKG－PM | Yellow Green | 572 |  | 830 |
| LTS－4312TBE－PM | Blue | 470 |  | 4000 |
| LTS－4812CKD－PM | Hyper Red | 639 | Common Anode | 639 |
| LTS－4812CKR－PM | Super Red | 631 |  | 639 |
| LTS－4812CKF－PM | Orange | 605 |  | 830 |
| LTS－4812CKS－PM | Yellow | 587 |  | 830 |
| LTS－4812CKG－PM | Yellow Green | 572 |  | 830 |
| LTS－4812TBE－PM | Blue | 470 |  | 4000 |

## Numeric Display_SMD Type



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=2 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTS-4317CKD-P | Hyper Red | 639 | Common Cathode | 639 |
| LTS-4317CKR-P | Super Red | 631 |  | 639 |
| LTS-4317CKF-P | Orange | 605 |  | 830 |
| LTS-4317CKS-P | Yellow | 587 |  | 830 |
| LTS-4317CKG-P | Yellow Green | 572 |  | 830 |
| LTS-4317TBE-P | Blue | 470 |  | 4000 |
| LTS-4817CKD-P | Hyper Red | 639 | Common Anode | 639 |
| LTS-4817CKR-P | Super Red | 631 |  | 639 |
| LTS-4817CKF-P | Orange | 605 |  | 830 |
| LTS-4817CKS-P | Yellow | 587 |  | 830 |
| LTS-4817CKG-P | Yellow Green | 572 |  | 830 |
| LTS-4817TBE-P | Blue | 470 |  | 4000 |

## Numeric Display_SMD Type



## Numeric Display_SMD Type



Dual-In-Line
. $39^{\prime \prime}$ H x $.56^{\prime \prime}$ W x . $12^{\prime \prime}$ D

| Part No. | Color |  | Typ. Luminous Intensity Iv/Seg <br> @l $=1 \mathrm{~mA}(\mu \mathrm{~nm})$ |
| :--- | :--- | :--- | :--- |
| LTD-2404CKD-P |  | Hyper Red | 639 |
| LTD-2404CKR-P |  | Super Red | 631 |



## Numeric Display_SMD Type



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg @ $\mathrm{I}_{\mathrm{F}}=2 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTD-5435CKD-P | Hyper Red | 639 | Multiplex Common Anode | 620 |
| LTD-5435CKR-P | Super Red | 631 |  | 620 |
| LTD-5435CKF-P | Orange | 605 |  | 620 |
| LTD-5435CKS-P | Yellow | 587 |  | 800 |
| LTD-5435CKG-P | Yellow Green | 572 |  | 800 |
| LTD-5435TBE-P | Blue | 470 |  | 3900 |

## Numeric Display_SMD Type

10 mm (.4")
Dual-In-Line
. $62^{\prime \prime} \mathrm{H} x 1.16^{\prime \prime}$ W x .09" D


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ \mathrm{I}_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTC-46F6CKD-P | Hyper Red | 639 | Multiplex Common Anode | 620 |
| LTC-46F6CKR-P | Super Red | 631 |  | 620 |
| LTC-46F6CKF-P | Orange | 605 |  | 620 |
| LTC-46F6CKS-P | Yellow | 587 |  | 800 |
| LTC-46F6CKG-P | Yellow Green | 572 |  | 800 |
| LTC-46F6TB-P | Blue | 470 |  | 3900 |

## Alphanumeric Display

$12.7 \mathrm{~mm}\left(.5^{\prime \prime}\right)$
Dual-In-Line
$1^{\prime \prime} \mathrm{H}$ x $.63^{\prime \prime}$ W x $.38^{\prime \prime}$ D

$\xrightarrow{16.00[.630]}{ }_{\phi 1.55[\mathrm{D.061}]}$




| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTP-537KD | Hyper Red | 639 | Common Cathode, Single, Dual Character, Rt. Hand Decimal | 700 |
| LTP-537KR | Super Red | 631 |  | 700 |
| LTP-537KS | Orange | 605 |  | 1600 |
| LTP-537KF | Yellow | 587 |  | 900 |
| LTP-537KG | Yellow Green | 572 |  | 900 |
| LTP-587KD | Hyper Red | 639 | Common Anode, Single, Dual Character, Rt. Hand Decimal | 700 |
| LTP-587KR | Super Red | 631 |  | 700 |
| LTP-587KS | Orange | 605 |  | 1600 |
| LTP-587KF | Yellow | 587 |  | 900 |
| LTP-587KG | Yellow Green | 572 |  | 900 |

## Alphanumeric Display



## Alphanumeric Display



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv/Seg $@ I_{\mathrm{F}}=1 \mathrm{~mA}(\mu \mathrm{~cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTP-4323JD | Hyper Red | 639 | Common Cathode, Duplex, Dual Character, Rt. Hand Decimal | 650 |
| LTP-4323KR | Super Red | 631 |  | 650 |
| LTP-4323KS | Orange | 605 |  | 1300 |
| LTP-4323KF | Yellow | 587 |  | 850 |
| LTP-4323JG | Yellow Green | 572 |  | 850 |
| LTP-4823JD | Hyper Red | 639 | Common Anode, Duplex, Dual Character, Rt. Hand Decimal | 650 |
| LTP-4823KR | Super Red | 631 |  | 650 |
| LTP-4823KS | Orange | 605 |  | 1300 |
| LTP-4823KF | Yellow | 587 |  | 850 |
| LTP-4823JG | Yellow Green | 572 |  | 850 |

## Alphanumeric Display



## Alphanumeric Display_SMD Type



## Alphanumeric Display_SMD Type



## Dot Matrix＿5X7 Single Color


## Dot Matrix_5X7 Single Color



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | $\begin{gathered} \text { Typ.Iv/Dot@I }=32 \mathrm{~mA} \\ 1 / 16 \text { Duty }(\mu \mathrm{cd}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| LTP-1457KD | Hyper Red | 639 |  |  |
| LTP-1457KR | Super Red | 631 |  |  |
| LTP-1457KF | Orange | 605 | Anode Column, Cathode Row | 4500 |
| LTP-1457KS | Yellow | 587 |  |  |
| LTP-1457KG | Yellow Green | 572 |  |  |
| LTP-1557KD | Hyper Red | 639 |  |  |
| LTP-1557KR | Super Red | 631 |  |  |
| LTP-1557KF | Orange | 605 | Cathode Column, Anode Row | 4500 |
| LTP-1557KS | Yellow | 587 |  |  |
| LTP-1557KG | Yellow Green | 572 |  |  |
| LTP-1557TBE | Blue | 470 | Cathode Column, Anode Row | $1350 @ l_{p}=10 \mathrm{~mA}$ |

## Dot Matrix＿5X7 Single Color

| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | $\begin{gathered} \text { Typ.Iv/Dot@l }=32 \mathrm{~mA} \\ 1 / 16 \text { Duty }(\mu \mathrm{cd}) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| LTP－2057AKA | Super Orange | 615 |  | 4600 |
| LTP－2057AKY | Amber Yellow | 592 | Anode Column，Cathode Row | 4600 |
| LTP－2057AKR | Super Red | 531 |  | 3500 |
| LTP－2157AKA | Super Orange | 615 |  | 4600 |
| LTP－2157AKY | Amber Yellow | 592 | Cathode Column，Anode Row | 4600 |
| LTP－2157AKR | Super Red | 531 |  | 3500 |

## Dot Matrix_5X8 Single Color

| $l$ |
| :--- | :--- | :--- | :--- |

## Dot Matrix＿5X8 Single Color


## Dot Matrix_8X8 Single Color



## Dot Matrix_8X8 Single Color



## Dot Matrix_8X8 Single Color



## Dot Matrix_8X8 Multi Color



$40 \mathrm{~mm}(2.0 \phi)$
Multi－In－Line
$1.59^{\prime \prime} \mathrm{H} \times 1.59^{\prime \prime} \mathrm{W} \times .07^{\prime \prime} \mathrm{D}$

## Dot Matrix＿16X16 Single Color


$40 \mathrm{~mm}(1.7 \phi)$
Dual－In－Line
1．57＂H x $1.57^{\prime \prime}$ W x $.14^{\prime \prime}$ D
Typ．Iv／Dot＠${ }_{\mathrm{p}}=28 \mathrm{~mA}$
$1 / 16$ Duty（ $\mu \mathrm{cd}$ ）
LTP－158FFKF $\quad$ Orange $\quad 605 \quad$ Anode Row，Cathode Column 1960















13 （19）私


$\lambda_{d}(n m)$

| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | $1 / 16$ Duty $(\mu \mathrm{cd})$ |
| :---: | :---: | :---: | :---: | :---: |
| LTP－159FFKF | Orange | 605 | Anode Row，Cathode Column | 1240 |

## Dot Matrix_16X16 Single Color



## Dot Matrix_16X16 Single Color



## Light Bar Array



| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ. Luminous Intensity Iv@10mA (mcd) |
| :---: | :---: | :---: | :---: | :---: |
| LTA-1000KD | Hyper Red | 639 |  | 12.3 |
| LTA-1000KR | Super Red | 631 |  | 12.3 |
| LTA-1000KF | Orange | 605 | Universal Rectangular Bar | 16 |
| LTA-1000KS | Yellow Green | 587 |  | 16.4 |
| LTA-1000KG | Yellow Green | 572 |  | 7.6 |

## Light Bar Array



## Light Bar Array



## Light Bar Array



| Part No． | Color | $\lambda_{\mathrm{d}}(\mathrm{nm})$ | Description | Typ．Luminous Intensity Iv＠10mA（mcd） |
| :---: | :---: | :---: | :---: | :---: |
| LTL－2655JD | －Hyper Red | 639 | Universal Rectangular Bar | 1.8 |
| LTL－2655HR | －Red | 623 |  | 8 |
| LTL－2755Y | －Yellow | 588 |  | 8 |
| LTL－2855G | －Yellow Green | 569 |  | 8 |

## Light Bar Array



## Light Bar Array



## LED Display Module

$\qquad$


Epoxy Type
14.2 mm (.56")

Single-In-Line
. $75^{\prime \prime} \mathrm{H} \times 1.98^{\prime \prime} \mathrm{W} \times .32^{\prime \prime} \mathrm{D}$


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ.lv/Seg@l $=10 \mathrm{~mA}(\mu \mathrm{~cd})$ | Forward Current $\mathrm{I}_{\mathrm{F}}(\mathrm{m} A)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| LTM-0735G | $\square$ | Green | 565 |  |  |
| LTM-0735SW | $\square$ | White | $(0.294,0.286)$ | Multiplex with IC Driver | 2200 |

## LED Display Module



LED Display Module


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description | Typ.lv/Dot@l $=20 \mathrm{~mA}(\mathrm{mcd})$ |
| :--- | :--- | :--- | :--- | :--- |
| LTM-1524KS | Amber Yellow | 595 | Multiplex with IC Driver | 2.4 |




| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Description |
| :---: | :---: | :---: | :---: |$\quad$| Typ.Iv/Seg@l $=10 \mathrm{~mA}(\mathrm{mcd})$ |
| :---: |
| LTM-1302SM |

## Automotive LED


$1.6 \times 0.8 \times 0.55 \mathrm{~mm}$


| Part No. | Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \operatorname{CIE}(x, y) \end{aligned}$ | Typ. <br> Luminous Intensity Iv (mcd) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. Forward Voltage $V_{F}(V)$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $\begin{aligned} & \mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s}) \\ & \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{aligned}$ | Max. <br> Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTSA-C191KEKT | Red | 624 | 112 | 130 | 2.0 | 20 | 450 | 25 | 95 | -40~85 |
| LTSA-C191KSKT | Yellow | 590 | 112 | 130 | 2.0 | 20 | 450 | 25 | 95 | -40~85 |
| LTSA-C191TGK5 | True Green | 525 | 112 | 130 | 3.0 | 5 | 370 | 20 | 95 | -40~85 |
| LTSA-C191TBK5 | Blue | 470 | 56 | 130 | 3.0 | 5 | 370 | 10 | 95 | -40~85 |
| LTSA-W191DBS5 | Cool White | (0.303, 0.317$)$ | 180 | 130 | 3.0 | 5 | 370 | 20 | 95 | -40~85 |

## 0805 Chip LED


$2.0 \times 1.25 \times 1.1 \mathrm{~mm}$


| Part No. |  | Color | $\lambda_{d}(n m) /$ <br> $\operatorname{CIE}(x, y)$ | Typ. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. Forward Current $I_{F}$ (mA) | Max. Junction Temperature Tj $\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTSA-C170KEKT |  | Red | 624 | 112 | 130 | 2.0 | 20 | 450 | 25 | 95 | -40~85 |
| LTSA-C170KSKT |  | Yellow | 590 | 112 | 130 | 2.0 | 20 | 450 | 25 | 95 | -40~85 |
| LTSA-C170TGKT |  | True Green | 525 | 230 | 130 | 2.0 | 20 | 370 | 20 | 95 | -40~85 |
| LTSA-C170TBKT |  | Blue | 470 | 90 | 130 | 2.0 | 20 | 370 | 20 | 95 | -40~85 |
| LTSA-W170ZTBAT-WT |  | Ice Blue | (0.201, 0.290) | 450 | 130 | 3.2 | 20 | 370 | 20 | 95 | $-40 \sim 85$ |
| LTSA-W170DBC5 | $\square$ | Cool White | (0.297, 0.310) | 180 | 130 | 3.0 | 5 | 370 | 20 | 95 | -40~85 |



Mini Top LED


| Part No. |  | Color | $\lambda_{d}(n m) /$ $\operatorname{CIE}(x, y)$ | Typ. <br> Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $V_{F}(\mathrm{~V})$ | Forward Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. <br> Forward Current $I_{F}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F LTSA-M67KKEWT |  | Red | 624 | 180 | 120 | 2.0 | 20 | 200 | 30 | 115 | -40~100 |
| F LTSA-M67KKSWT |  | Yellow | 590 | 180 | 120 | 2.0 | 20 | 200 | 30 | 115 | -40~100 |
| F LTSA-M67KTGWT |  | True Green | 525 | 1400 | 120 | 3.0 | 20 | 180 | 30 | 115 | -40~100 |
| $\checkmark$ LTSA-M67KTBWT |  | Blue | 470 | 224 | 120 | 3.0 | 20 | 180 | 30 | 115 | -40~100 |
| F LTSA-M67KTHET |  | Ice Blue | (0.190, 0.276) | 1800 | 120 | 3.0 | 20 | 180 | 30 | 115 | -40~100 |
| $\checkmark$ LTSA-M67KTWET | $\square$ | Cool White | (0.300, 0.300) | 1800 | 120 | 3.0 | 20 | 180 | 30 | 115 | -40~100 |

New


Side LED_S089

$3.0 \times 1.4 \times 0.6 \mathrm{~mm}$


| Part No. |  | Color | $\mathrm{CIE}(\mathrm{x}, \mathrm{y})$ | Typ. Luminous Flux © $\mathrm{v}^{\mathrm{V}}$ (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $V_{F}(V)$ | Forward <br> Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. Forward Current $I_{F}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTSA-S089ZHET |  | Ice Blue | (0.190, 0.276) | 5 | 120 | 3.1 | 20 | 260 | 30 | 110 | -40~100 |
| LTSA-S089ZWET | $\square$ | Cool White | (0.316, 0.333$)$ | 9 | 120 | 3.0 | 20 | 260 | 50 | 110 | -40~100 |



Multi Color 3－in－1 Side LED＿S33

$3.0 \times 1.0 \times 0.6 \mathrm{~mm}$

| Part No． | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ． <br> Luminous Intensity Iv（mcd） | View Angle $2 \theta_{1 / 2}$ | Typ． <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}$ （mA） | Thermal Resistance $R_{\text {th }}(j-s)$ （ ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ） | Max． <br> Forward Current $\mathrm{I}_{\mathrm{F}}$ （mA） | Max． Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range（ ${ }^{\circ} \mathrm{C}$ ） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTSA－S33GBEGK5 | Red | 624 | 180 | 130 | 2.0 | 5 | 450 | 20 | 95 | －40～85 |
|  | True Green | 530 | 180 | 130 | 2.8 | 5 | 370 | 20 | 95 |  |
|  | Blue | 470 | 112 | 130 | 2.8 | 5 | 370 | 20 | 95 |  |



## PLCC4 Top LED





## 5mm Through Hole Lamp




| Typ． <br> Luminous <br> Intensity <br> IV <br> $(\mathrm{mcd})$ | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ． <br> Forward <br> Voltage <br> $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward <br> Current $\mathrm{I}_{\mathrm{F}}$ <br> $(\mathrm{mA})$ | Thermal <br> Resistance <br> $R_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ <br> $\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ | Max． <br> Forward <br> Current $\mathrm{I}_{\mathrm{F}}$ <br> $(\mathrm{mA})$ | Max． | Junction <br> Temperature <br> $\mathrm{Tj}\left({ }^{( } \mathrm{C}\right)$ | Operating <br> Temperature <br> Range $\left({ }^{( } \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5500 | 30 | 2.0 | 20 | 320 | 50 | 125 | $-40 \sim 100$ |  |
| 12000 | 30 | 2.0 | 20 | 320 | 50 | 125 | $-40 \sim 100$ |  |
| 5500 | 30 | 2.0 | 20 | 320 | 50 | 125 | $-40 \sim 100$ |  |

$\qquad$



| Part No. |  | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Flux $\Phi v$ <br> (Im) | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $V_{F}(V)$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal $\mathrm{R}_{\mathrm{tt}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) |  | Max. Junction Temperature Tj( $\left.{ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTLA916VAJ2K | - | Amber | 615 | 8 | 25 | 2.2 | 70 | 70 | 70 | 125 | -40~110 |
| LTLA916VYJ2K | - | Yellow | 590 | 8 | 25 | 2.2 | 70 | 70 | 70 | 125 | -40~110 |

$30^{\circ}$ Piranha
少,


| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Typ. Luminous Flux $\Phi$ v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. <br> Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTLA918VEJ3K | Red | 624 | 6 | 30 | 2.2 | 50 | 70 | 50 | 110 | -40~100 |
| LTLA918VYJ3K | Yellow | 590 | 6 | 30 | 2.2 | 50 | 70 | 50 | 110 | -40~100 |



High Power LED_P35


| Part No. | Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \operatorname{CIE}(x, y) \end{aligned}$ | Typ. Luminous Flux © $v^{2}$ (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $R_{\text {th }}(j-s)$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. <br> Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range ( ${ }^{\circ} \mathrm{C}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPA-P35PUDNPKE (Gold Plating) | Red | 620 | 50 | 120 | 2.2 | 350 | 10 | 400 | 125 | -40~100 |
| LTPA-P3535CWP | Cool White | (0.325, 0.340) | 160 | 120 | 3.2 | 350 | 10 | 500 | 125 | -40~100 |
| LTPA-P35PUCWP (Gold Plating) | Cool White | (0.325, 0.340) | 110 | 120 | 3.2 | 350 | 10 | 500 | 125 | -40~100 |
| LTPA-P3535CBPPA | PC Amber | (0.570, 0.420) | 140 | 120 | 3.2 | 350 | 10 | 500 | 125 | -40~100 |
| LTPA-P35PUCBPPA (Gold Plating) | PC Amber | (0.570, 0.420$)$ | 80 | 120 | 3.2 | 350 | 10 | 500 | 125 | -40~100 |


$3.45 \times 3.45 \times 2.13 \mathrm{~mm}$



| Part No. |  | Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \operatorname{CIE}(x, y) \end{aligned}$ | Typ. Luminous Flux ©v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $V_{F}(\mathrm{~V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. Forward Current $I_{F}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating Temperature Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPA-C3535CNPKE | $\square$ | Red | 624 | 65 | 130 | 2.2 | 350 | 15 | 500 | 125 | -40~125 |
| LTPA-C3535CNPTG |  | True Green | 525 | 100 | 130 | 3.4 | 350 | 15 | 500 | 125 | -40~125 |
| LTPA-C3535ANPTB | $\square$ | Blue | 470 | 45 | 130 | 3.2 | 350 | 15 | 500 | 125 | -40~125 |
| LTPA-C3535AWP | $\square$ | Cool White | (0.325, 0.340) | 140 | 118 | 3.2 | 350 | 9.5 | 700 | 125 | -40~125 |
| LTPA-C3535BWP57 | $\square$ | Cool White | (0.325, 0.340) | 130 | 118 | 3.2 | 350 | 15 | 500 | 125 | -40~125 |
| LTPA-C35NUAWP | $\square$ | Cool White | (0.325, 0.340) | 120 | 118 | 3.2 | 350 | 9.5 | 700 | 125 | -40~125 |
| LTPA-C3535BBPPA | - | PC Amber | (0.570, 0.420) | 110 | 118 | 3.2 | 350 | 15 | 500 | 125 | -40~125 |
| LTPA-C35NUBBPPA | - | PC Amber | (0.570, 0.420) | 85 | 118 | 3.2 | 350 | 15 | 500 | 125 | -40~125 |

High Power LED _S38


| Part No. |  | Color | $\mathrm{ClE}(\mathrm{x}, \mathrm{y})$ | Typ. <br> Luminous Flux © v (Im) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) | Max. Forward Current $I_{F}$ (mA) | Max. Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating <br> Temperature <br> Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T LTPA-S38FUMWE |  | Cool White | (0.325, 0.340) | 240 | 120 | 3.0 | 700 | 5.5 | 1200 | 150 | -40~125 |
| F LTPA-S38FUMBPPA |  | PC Amber | (0.570, 0.420) | 80 | 120 | 3.0 | 350 | 5.5 | 700 | 150 | -40~125 |

F New

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $1.9 \times 1.5 \times 0.75$ | mm |  |  |  |  |
| Part No． | Correlated color temperature （K） | Typ． Luminous Flux © v （lm） | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{f}(\mathrm{~mA})$ | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ （ ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ） | Max．Forward Current $I_{F}$ （mA） | Max． Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating Temperature Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| $\checkmark$ LTPA－C1915 | 5600K | 230 | 120 | 3.4 | 700 | 5 | 1200 | 150 | －40～125 |

V Under Development


| Part No． | Correlated color temperature （K） | Typ． Luminous Flux（1）v （lm） | View <br> Angle <br> $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}(\mathrm{~mA})$ | Thermal Resistance $R_{\text {th }}(j-s)$ （ ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ） | Max．Forward Current $I_{F}$ （mA） | Max． Junction Temperature $\mathrm{Tj}\left({ }^{\circ} \mathrm{C}\right)$ | Operating Temperature Range $\left({ }^{\circ} \mathrm{C}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| F LTPA－H2S3138 | 5600K | 640 | 118 | 6.8 | 1000 | 1.6 | 1500 | 150 | －40～125 |
| F LTPA－H3S4238 | 5600K | 960 | 118 | 10.2 | 1000 | 1.3 | 1500 | 150 | －40～125 |
| $\checkmark$ LTPA－H4S5338 | 5600K | 1280 | 118 | 13.6 | 1000 | 1.1 | 1500 | 150 | －40～125 |
| F LTPA－H5S6438 | 5600K | 1600 | 118 | 17.0 | 1000 | 0.9 | 1500 | 150 | －40～125 |

F Under Development

##  | Signage LED



## Chip LED Single Color



Chip LED Single Color

$1.6 \times 0.8 \times 0.55 \mathrm{~mm}$


| Part No． |  | Color | $\begin{aligned} & \lambda_{\mathrm{d}}(\mathrm{~nm}) / \\ & \text { CIE }(\mathrm{x}, \mathrm{y}) \end{aligned}$ | Min．Luminous Intensity Iv （mcd） | Max．Luminous Intensity Iv （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ． <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> （V） | Forward Current IF （mA） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTSN－C191KSKT | － | Yellow | 590 | 112 | 224 | 130 | 2 | 20 |
| LTSN－C191DS | $\square$ | White | （0．31，0．31） | 355 | 900 | 130 | 3.3 | 20 |

## Chip LED Multi Color



## Chip LED Multi Color



## Chip LED Multi Color (IC Embedded)

| $1.8 \times 1.8 \times 0.65 \mathrm{~mm}$ |  | VDD |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | $\lambda_{d}(\mathrm{~nm})$ | Min. Luminous Intensity Iv (mcd) | Max. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
|  | Red | 624 | 280 | 1120 |  | 2 |  |
| LTSN-E263HEGBK | True Green | 525 | 180 | 710 | 120 | 3.3 | 18 |
|  | Blue | 470 | 71 | 280 |  | 3.3 |  |

Chip LED Multi Color (IC Embedded)


## PLCC Single Color


$3.5 \times 2.8 \times 1.9 \mathrm{~mm}$


| Part No. | Color | $\begin{aligned} & \lambda_{\mathrm{d}}(\mathrm{~nm}) / \\ & \text { CIE }(\mathrm{x}, \mathrm{y}) \end{aligned}$ | Min. Luminous Intensity Iv (mcd) | Max. Luminous Intensity Iv (mcd) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current $I_{F}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTST-B680VEKT | Red | 624 | 710 | 1400 | 120 | 2 | 20 |
| LTST-B680VSKT | Yellow | 589 | 900 | 1800 | 120 | 2 | 20 |
| LTST-B680UGKT | True Green | 525 | 900 | 1800 | 120 | 3.2 | 20 |
| LTST-B680UWET | White | (0.31, 0.31) | 1800 | 2800 | 120 | 3.2 | 20 |

## PLCC Single Color



## PLCC Multi Color



## PLCC Multi Color



| Part No． |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

## PLCC Multi Color



## Through Hole Lamp_3mm


## Through Hole Lamp_3mm

|  | 3 mm Round |  |  | $3.50 \pm 0$ $\begin{array}{r} 0.45 \\ (.02 \\ 2.54 \mathrm{NC} \\ \hline \end{array}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Color | Resin Color | $\lambda_{d}(\mathrm{~nm})$ | Min. <br> Luminous Intensity Iv (mcd) | Max. <br> Luminous Intensity Iv (mcd) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage VF <br> (V) | Forward Current IF (mA) |
| LTL1SHEW3KS | Red | Water Clear | 625 | 4200 | 5000 | 30 | 2.1 | 20 |
| LTL1SHER3D | Red | Red Diffused | 624 | 1500 | 3200 | 30 (min.) | 2.1 | 20 |
| LTL1SHYW3KS | Yellow | Water Clear | 590 | 4200 | 5000 | 30 | 2.1 | 20 |
| LTL1SHTGV3DP | True Green | Green Diffused | 525 | 7200 | 12000 | 35 | 3.2 | 20 |
| LTL1SHTBN3DP | Blue | Water Clear | 470 | 1500 | 2500 | 35 | 3.2 | 20 |

Through Hole Lamp_3mm


## Through Hole Lamp_4mm





5mm Round


| Part No. | Color | Resin Color | $\begin{aligned} & \lambda_{d}(n m) / \\ & \text { CIE }(x, y) \end{aligned}$ | Min. <br> Luminous Intensity Iv (mcd) | Max. <br> Luminous Intensity Iv (mcd) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTL2H3E11K | Red | Water Clear | 625 | 12000 | 16000 | 15 | 2.1 | 20 |
| LTL2P3EX2K | Red | Water Clear | 625 | 9300 | 12000 | 23 | 2.1 | 20 |
| LTL2V3EY3KS | Red | Water Clear | 625 | 7200 | 9300 | 30 | 2.1 | 20 |
| LTL2V3EUJS | Red | White Diffued | 625 | 2500 | 4200 | 36 | 2.1 | 20 |
| LTL2R3FU3JSR | Amber | White Diffued | 607 | 880 | 1900 | 30 | 1.9 | 10 |
| LTL2H3Y11K | Yellow | Water Clear | 590 | 7200 | 9300 | 15 | 2.1 | 20 |
| LTL2P3YX2K | Yellow | Water Clear | 590 | 9300 | 12000 | 23 | 2.1 | 20 |
| LTL2R3YW3KS | Yellow | Water Clear | 590 | 3800 | 4200 | 30 | 2.1 | 20 |
| LTL2R3TGY3KS | Ture Green | Water Clear | 525 | 7800 | 9600 | 30 | 3.2 | 20 |
| LTL2H3TC21K | Cyan | Water Clear | 505 | 15000 | 26000 | 15 | 3.2 | 20 |
| LTL2P3TCY2K | Cyan | Water Clear | 505 | 9300 | 12000 | 23 | 3.2 | 20 |
| LTL2R3TCY3JS | Cyan | White Diffued | 505 | 7200 | 9300 | 30 | 3.2 | 20 |
| LTW2V3D13JS | White | White Diffued | (0.32, 0.33) | 12000 | 27000 | 30 | 3.2 | 20 |
| LTW-2S3D8-CY | White | Water Clear | (0.3, 0.3) | 13000 | 29000 | 15 | 3.2 | 20 |

## Through Hole Lamp＿5mm



## Through Hole Lamp＿5mm

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No． |  | Color | Resin Color | $\begin{aligned} & \lambda_{\mathrm{d}}(\mathrm{~nm}) / \\ & \text { CIE }(\mathrm{x}, \mathrm{y}) \end{aligned}$ | Min． <br> Luminous Intensity I （mcd） | Max． <br> Luminous Intensity IV （mcd） | View Angle $2 \theta_{1 / 2}$ | Typ．Forward Voltage $\mathrm{V}_{\mathrm{F}}$ （V） | Forward Current $I_{F}$ （mA） |
| LTL5L3ES7D |  | Red | Red Diffused | 624 | 1900 | 5500 | 70／35 | 2.1 | 20 |
| LTL5L3YU7DS | － | Yellow | Yellow Diffused | 591 | 3200 | 9300 | 70／35 | 2.1 | 20 |
| LTL5L3TGV7D | $\square$ | True Green | Green Diffused | 530 | 4200 | 12000 | 70／35 | 3.2 | 20 |
| LTW5L3DW7JS | $\square$ | White | White Diffued | （0．32，0．33） | 4200 | 9300 | 70／35 | 3.2 | 20 |

Through Hole Lamp_5mm_Dual Color


$2.7 \times 1.4 \times 0.8 \mathrm{~mm}$


| Part No. | Correlated color temperature (K) | CRI Ra (min.) | Typ. <br> Luminous Flux $\Phi v$ (lm) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $\mathrm{I}_{\mathrm{F}}$ (mA) | Thermal Resistance $R_{\text {th }}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTW-K140SZR27-EU | 2700 | 80 | 23.5 | 120 | 3.2 | 60 | 30 |
| LTW-K140SZR30-EU | 3000 | 80 | 25 | 120 | 3.2 | 60 | 30 |
| LTW-K140SZR40-EU | 4000 | 80 | 26 | 120 | 3.2 | 60 | 30 |
| LTW-K140SZR50-EU | 5000 | 80 | 26.5 | 120 | 3.2 | 60 | 30 |
| LTW-K140SZR57-EU | 5700 | 80 | 26 | 120 | 3.2 | 60 | 30 |
| LTW-K140SZR65-EU | 6500 | 80 | 26 | 120 | 3.2 | 60 | 30 |
| LTW-K140SXR85 | 8500 | - | 23 | 120 | 3.2 | 60 | 30 |

Middle Power


| Part No. | Correlated color temperature (K) | CRIRa (min.) | Typ. <br> Luminous Flux ©v (lm) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTW-2835SZK27 | 2700 | 80 | 24.4 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH27 | 2700 | 80 | 31 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI27 | 2700 | 80 | 31 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN27 | 2700 | 80 | 115 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL27 | 2700 | 80 | 61.4 | 120 | 3.1 | 150 | 21 |
| LTW-2835SZK30 | 3000 | 80 | 26 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH30 | 3000 | 80 | 31.5 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI30 | 3000 | 80 | 31.5 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN30 | 3000 | 80 | 118 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL30 | 3000 | 80 | 62.9 | 120 | 3.1 | 150 | 21 |
| LTW-2835SZK40 | 4000 | 80 | 27.5 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH40 | 4000 | 80 | 33 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI40 | 4000 | 80 | 33 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN40 | 4000 | 80 | 125 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL40 | 4000 | 80 | 65.3 | 120 | 3.1 | 150 | 21 |
| LTW-2835SZK50 | 5000 | 80 | 28 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH50 | 5000 | 80 | 34 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI50 | 5000 | 80 | 34 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN50 | 5000 | 80 | 128 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL50 | 5000 | 80 | 67.0 | 120 | 3.1 | 150 | 21 |
| LTW-2835SZK57 | 5700 | 80 | 28 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH57 | 5700 | 80 | 33.5 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI57 | 5700 | 80 | 33.5 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN57 | 5700 | 80 | 128 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL57 | 5700 | 80 | 67.0 | 120 | 3.1 | 150 | 21 |
| LTW-2835SZK65 | 6500 | 80 | 27.5 | 120 | 3.0 | 60 | 35 |
| LTW-2835AZH65 | 6500 | 80 | 33 | 120 | 2.8 | 65 | 16 |
| LTW-2835AZI65 | 6500 | 80 | 33 | 120 | 2.7 | 65 | 8 |
| LTW-2835TZN65 | 6500 | 80 | 125 | 120 | 9.1 | 100 | 15 |
| LTW-2835AZL65 | 6500 | 80 | 65.3 | 120 | 3.1 | 150 | 21 |



| Part No. | Correlated color temperature (K) | CRI Ra (min.) | $\lambda_{d}(\mathrm{~nm})$ | $\lambda_{p}(\mathrm{~nm})$ | Typ. Luminous Flux © ${ }^{\text {v }}$ (Im) | Typ. Radiant Flux (mW) | View Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTW-5630AZL27-EUH | 2700 | 80 | - | - | 30.3 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL27 | 2700 | 90 | - | - | 44.5 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630AZL30-EUH | 3000 | 80 | - | - | 32.2 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL30 | 3000 | 90 | - | - | 47.2 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630AZL40-EUH | 4000 | 80 | - | - | 33.1 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL40 | 4000 | 90 | - | - | 48.0 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630AZL50-EUH | 5000 | 80 | - | - | 33.8 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL50 | 5000 | 90 | - | - | 49.0 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630AZL57-EUH | 5700 | 80 | - | - | 33.7 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL57 | 5700 | 90 | - | - | 48.0 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630AZL65-EUH | 6500 | 80 | - | - | 33.2 | - | 120 | 2.8 | 65 | 13 |
| LTW-5630AQL65 | 6500 | 90 | - | - | 47.2 | - | 120 | 3.0 | 120 | 13 |
| LTW-5630SD458 | - | - | 458 | - | 9 | 250 | 120 | 3.1 | 150 | 13 |
| LTW-5630SD470 | - | - | 470 | - | 13.7 | 170 | 120 | 3.1 | 150 | 13 |
| LTW-5630SD530 | - | - | 530 | - | 37 | 71.6 | 120 | 3.2 | 150 | 13 |
| LTW-5630SD590 | - | - | 590 | - | 26 | 53 | 120 | 2.5 | 150 | 13 |
| LTW-5630SD630 | - | - | 630 | - | 16 | 100 | 120 | 2.4 | 150 | 13 |
| LTW-5630SP660 | - | - | - | 660 | 8.2 | 127 | 120 | 2.2 | 150 | 13 |
| LTW-5630SP730 | - | - | - | 730 | - | 160 | 120 | 2.0 | 150 | 13 |
| LTW-5630SP750 | - | - | - | 750 | - | 82 | 120 | 2.0 | 150 | 13 |

TOP VEW


Terminol connections


| Part No. | Correlated color temperature (K) | CRI Ra (min.) | Typ. <br> Luminous Flux © ( Im ) | View Angle $2 \theta_{1 / 2}$ | Typ. Forward Voltage $\mathrm{V}_{\mathrm{F}}(\mathrm{V})$ | Forward Current $I_{F}$ (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})\left({ }^{\circ} \mathrm{C} / \mathrm{W}\right)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-P033BS50 | 5000 | 70 | 193 | 120 | 5.6 | 180 | 2.6 |
| LTPL-P033BS40 | 4000 | 70 | 192 | 120 | 5.6 | 180 | 2.6 |
| LTPL-P033BS30 | 3000 | 70 | 187 | 120 | 5.6 | 180 | 2.6 |

High Power


High Power



High Power


## Ceramic COB



| Part No. | Correlated color temperature (K) | CRI Ra min. | LES (mm) | Min. Luminous Flux © v (lm) | Max. <br> Luminous Flux (Dv (lm) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Thermal Resistance $\begin{aligned} & \mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s}) \\ & \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-M13706ZS27-T0 | 2700 | 80 | 6.3 | 395 | 580 | 120 | 35.7 | 100 | 4.00 |
| LTPL-M13710ZS27-T0 | 2700 | 80 | 6.3 | 730 | 1070 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13712ZS27-T0 | 2700 | 80 | 6.3 | 730 | 1070 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13706ZS30-T0 | 3000 | 80 | 6.3 | 395 | 580 | 120 | 35.7 | 100 | 4.00 |
| LTPL-M13710ZS30-T0 | 3000 | 80 | 6.3 | 730 | 1070 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13712ZS30-T0 | 3000 | 80 | 6.3 | 790 | 1140 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13706ZS40-T0 | 4000 | 80 | 6.3 | 425 | 625 | 120 | 35.7 | 100 | 4.00 |
| LTPL-M13710ZS40-T0 | 4000 | 80 | 6.3 | 790 | 850 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13712ZS40-T0 | 4000 | 80 | 6.3 | 790 | 1155 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13706ZS50-F1 | 5000 | 80 | 6.3 | 425 | 625 | 120 | 35.7 | 100 | 4.00 |
| LTPL-M13710ZS50-F1 | 5000 | 80 | 6.3 | 790 | 850 | 120 | 35.7 | 200 | 2.50 |
| LTPL-M13712ZS50-F1 | 5000 | 80 | 6.3 | 190 | 1155 | 120 | 35.7 | 200 | 2.50 |

## Ceramic COB



## Ceramic COB


$17.85 \times 17.85 \times 1.6 \mathrm{~mm}$



Terminal connections


Terminal connections

| Part No. | Correlated color temperature (K) | CRI Ra min. | $\begin{aligned} & \text { LES } \\ & (\mathrm{mm}) \end{aligned}$ | Min. Luminous Flux © $\mathrm{V}^{2}$ (lm) | Max. Luminous Flux © $\mathrm{v}^{2}$ (lm) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current $I_{F}$ (mA) | Thermal Resistance $\begin{aligned} & \mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s}) \\ & \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-M09825ZS30-T0 | 3000 | 80 | 12.6 | 2890 | 3925 | 120 | 37.1 | 700 | 1.24 |
| LTPL-M09825QS30-T0 | 3000 | 90 | 12.6 | 2300 | 3120 | 120 | 37.1 | 700 | 1.24 |
| LTPL-M09830ZS30-T0 | 3000 | 80 | 12.6 | 3370 | 4940 | 120 | 36.1 | 800 | 0.76 |
| LTPL-M09830QS30-T0 | 3000 | 90 | 12.6 | 2890 | 3925 | 120 | 36.1 | 800 | 0.76 |
| LTPL-M09825ZS40-T0 | 4000 | 80 | 12.6 | 2890 | 3925 | 120 | 37.1 | 700 | 1.24 |
| LTPL-M09830ZS40-T0 | 4000 | 80 | 12.6 | 3370 | 4940 | 120 | 36.1 | 800 | 0.76 |
| LTPL-M09825ZS50-F1 | 5000 | 80 | 12.6 | 3120 | 4204 | 120 | 37.1 | 700 | 1.24 |
| LTPL-M09830ZS50-F1 | 5000 | 80 | 12.6 | 3640 | 5330 | 120 | 36.1 | 800 | 0.76 |

## Ceramic COB



| Part No． | Correlated color temperature （K） | CRI Ra min． | $\begin{aligned} & \text { LES } \\ & (\mathrm{mm}) \end{aligned}$ | Min． <br> Luminous Flux © v （Im） | Max． Luminous Flux © v （lm） | View <br> Angle $2 \theta_{1 / 2}$ | Typ． Forward Voltage $\mathrm{V}_{\mathrm{F}}$ （V） | Forward Current $\mathrm{I}_{\mathrm{F}}$ （mA） | Thermal Resistance $\begin{aligned} & \mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s}) \\ & \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL－M07452ZS30－T0 | 3000 | 80 | 22 | 6210 | 9100 | 120 | 35.9 | 1400 | 0.32 |
| LTPL－M07480ZS30－T0 | 3000 | 80 | 22 | 8430 | 12350 | 120 | 35.9 | 2050 | 0.24 |
| LTPL－M07452ZS57－T0 | 5700 | 80 | 22 | 6700 | 9820 | 120 | 35.9 | 1400 | 0.32 |
| LTPL－M07480ZS57－T0 | 5700 | 80 | 22 | 9100 | 13330 | 120 | 35.9 | 2050 | 0.24 |
| LTPL－M07452ZS65－T0 | 6500 | 80 | 22 | 6700 | 9820 | 120 | 35.9 | 1400 | 0.32 |
| LTPL－M07480ZS65－T0 | 6500 | 80 | 22 | 9100 | 13330 | 120 | 35.9 | 2050 | 0.24 |


$17.85 \times 17.85 \times 1.6 \mathrm{~mm}$


| Part No. | Correlated color temperature (K) | CRI Ra min. | $\begin{aligned} & \text { LES } \\ & (\mathrm{mm}) \end{aligned}$ | Min. <br> Luminous Flux © 1 v (Im) | Max. <br> Luminous Flux © 1 (Im) | View <br> Angle $2 \theta_{1 / 2}$ | Typ. <br> Forward Voltage $\mathrm{V}_{\mathrm{F}}$ (V) | Forward Current IF (mA) | Thermal Resistance $\mathrm{R}_{\mathrm{th}}(\mathrm{j}-\mathrm{s})$ ( ${ }^{\circ} \mathrm{C} / \mathrm{W}$ ) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTPL-M08206ZS27-T0 | 2700 | 80 | 9.5 | 535 | 730 | 120 | 36.5 | 120 | 2.04 |
| LTPL-M08210ZS27-T0 | 2700 | 80 | 9.5 | 990 | 1345 | 120 | 36.5 | 240 | 1.20 |
| LTPL-M08218ZS27-T0 | 2700 | 80 | 9.5 | 1455 | 1975 | 120 | 36.5 | 360 | 0.90 |
| LTPL-M08206ZS30-T0 | 3000 | 80 | 9.5 | 535 | 730 | 120 | 36.5 | 120 | 2.04 |
| LTPL-M08206QS30-T0 | 3000 | 90 | 9.5 | 460 | 625 | 120 | 36.5 | 120 | 2.04 |
| LTPL-M08210ZS30-T0 | 3000 | 80 | 9.5 | 990 | 1345 | 120 | 36.5 | 240 | 1.20 |
| LTPL-M08210QS30-T0 | 3000 | 90 | 9.5 | 850 | 1155 | 120 | 36.5 | 240 | 1.20 |
| LTPL-M08218ZS30-T0 | 3000 | 80 | 9.5 | 1570 | 2130 | 120 | 36.5 | 360 | 0.90 |
| LTPL-M08218QS30-T0 | 3000 | 90 | 9.5 | 1245 | 1695 | 120 | 36.5 | 360 | 0.90 |
| LTPL-M08206ZS40-T0 | 4000 | 80 | 9.5 | 580 | 790 | 120 | 36.5 | 120 | 2.04 |
| LTPL-M08210ZS40-T0 | 4000 | 80 | 9.5 | 1070 | 1455 | 120 | 36.5 | 240 | 1.20 |
| LTPL-M08218ZS40-T0 | 4000 | 80 | 9.5 | 1570 | 2130 | 120 | 36.5 | 360 | 0.90 |

（


## IR Emitter_3mm Through Hole Type



## IR Emitter_3mm Through Hole Type



| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle $2 \theta_{1 / 2}$ | Typ.Radiation Intensity $\mathrm{I}_{\mathrm{e}}$ ( $\mathrm{mW} / \mathrm{sr}$ ) | Typ.Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTE-4206 | 940 | Water Clear | 20 | 5.3 @ $\mathrm{l}_{\mathrm{F}}=20 \mathrm{~mA}$ | 1.2 @ $\mathrm{l}_{\mathrm{F}}=20 \mathrm{~mA}$ |
| LTE-4206C | 940 | Smoke | 20 | 5.3 @ $\mathrm{l}_{\mathrm{F}}=20 \mathrm{~mA}$ | 1.2 @ $\mathrm{l}_{\mathrm{F}}=20 \mathrm{~mA}$ |
| LTE-4209 | 850 | Water Clear | 25 | 33 @l $\mathrm{F}_{\mathrm{F}}=50 \mathrm{~mA}$ | 1.5 @ $\mathrm{l}_{\mathrm{F}}=50 \mathrm{~mA}$ |
| LTE-16K3L | 940 | Water Clear | 55 | 7.4 @ $\mathrm{F}_{\mathrm{F}}=20 \mathrm{~mA}$ | 1.5 @ $\mathrm{l}_{\mathrm{F}}=20 \mathrm{~mA}$ |

## IR Emitter_3mm Through Hole Type



## IR Emitter_3mm Through Hole Type

Part No .

## IR Emitter_3mm Through Hole Type



## IR Emitter_3mm Through Hole Type



| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle <br> $2 \theta_{1 / 2}$ | Typ.Radiation Intensity <br> $I_{e}(\mathrm{~mW} / \mathrm{sr})$ | Typ.Forward Voltage $V_{F}$ <br> $(\mathrm{~V})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Forward Current |  |  |  |  |  |
| $I_{F}(\mathrm{~mA})$ |  |  |  |  |  |

## IR Emitter_5mm Through Hole Type



T1 3/4 Top View, 5 mm

flat denotes cathode
BOTTOM VIEW


| Part No. |  |  |  |
| :--- | :--- | :--- | :--- |
|  | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle $2 \theta_{1 / 2}$ |

## IR Emitter_5mm Through Hole Type



IR Emitter_Side Look


## IR Emitter_Side Look




## IR Emitter_Side Look





| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle $2 \theta_{1 / 2}$ | Typ.Radiation Intensity $\mathrm{I}_{\mathrm{e}}$ <br> $(\mathrm{mW} / \mathrm{sr})$ | Typ.Forward Voltage $V_{F}$ <br> $(\mathrm{~V})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTE-306 | 940 | Water Clear | 30 | 1.5 @I $=20 \mathrm{~mA}$ | 1.2 @I $=20 \mathrm{~mA}$ |
| LTE-304 | 850 | Water Clear | 30 | $3.0 @ \mathrm{I}_{\mathrm{F}}=20 \mathrm{~mA}$ | 1.6 @I $\mathrm{I}_{\mathrm{F}}=50 \mathrm{~mA}$ |

## IR Emitter_SMD Side View


$6.40 \times 5.80 \times 5.00 \mathrm{~mm}$


| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle 2 $\theta_{1 / 2}$ | Typ.Radiation Intensity $\mathrm{I}_{\mathrm{e}}$ <br> $(\mathrm{mW} / \mathrm{sr})$ | Typ.Forward Voltage $V_{F}$ <br> $(\mathrm{~V})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTE-7377L | 880 | Blue | 16 | 35.0 @ $\mathrm{I}_{\mathrm{F}}=50 \mathrm{~mA}$ | 1.8 @ $\mathrm{I}_{\mathrm{F}}=350 \mathrm{~mA}$ |

## IR Emitter_SMD Type



| Part No. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |

## IR Emitter_SMD Type



| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle $2 \theta_{1 / 2}$ | Typ.Radiation Intensity $\mathrm{I}_{\mathrm{e}}(\mathrm{mW} / \mathrm{sr})$ | Typ.Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current $I_{\text {F }}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTE-C1901-ZF | 940 | Clear | 150 | 0.8 | 1.2 | 20 |
| LTE-C1906R-14 | 850 | Clear | 130 | 2.0 | 1.6 | 20 |

## IR Emitter_SMD Type


$3.2 \times 1.6 \times 1.1 \mathrm{~mm}$


| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle $2 \theta_{1 / 2}$ | Typ.Radiation Intensity $\mathrm{I}_{\mathrm{e}}(\mathrm{mW} / \mathrm{sr})$ | Typ.Forward Voltage $\mathrm{V}_{\mathrm{F}}$ <br> (V) | Forward Current $I_{F}(\mathrm{~mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTE-C211-X | 940 | Clear | 115 | 1.8 | 1.2 | 20 |
| LTE-C216-P | 850 | Clear | 75 | 4.0 | 1.4 | 20 |
| LTE-C216R-14 | 850 | Clear | 75 | 4.0 | 1.4 | 20 |

## IR Emitter_SMD Type


$3.2 \times 2.4 \times 2.4 \mathrm{~mm}$


| Part No. |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |

## IR Emitter_SMD Type



## IR Emitter_SMD Type



| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle <br> $2 \theta_{1 / 2}$ | Typ.Radiation Intensity <br> $I_{e}(\mathrm{~mW} / \mathrm{sr})$ | Typ.Forward Voltage $V_{F}$ <br> $(\mathrm{~V})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FTE-C9901 |  |  |  | Forward Current <br> $I_{F}(\mathrm{~mA})$ |  |

## IR Emitter_SMD Type



## IR Emitter_SMD Type



## IR Emitter_SMD Type



| Part No. | $\lambda_{p}(\mathrm{~nm})$ | Lens Color | Viewing Angle <br> $2 \theta_{1 / 2}$ | Typ.Radiation Intensity <br> $I_{e}(\mathrm{~mW} / \mathrm{sr})$ | Typ.Forward Voltage $V_{F}$ <br> $(V)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Forward Current |  |  |  |  |  |

## IR Emitter_SMD Type



## IR Emitter_SMD Bowl Type



IR Emitter_High Power SMD


## IR Emitter_SMD Type



## Photodiode_5mm Through Hole Type



Photodiode_Side Look


## Photodiode_Side Look



## Photodiode_Side Look



## Photodiode_Side Look



## Photodiode_SMD Side Look



## Photodiode_SMD Type


$3.2 \times 2.7 \times 1.1 \mathrm{~mm}$


| Part No. | Lens Color | Visable Light Fiber | $\begin{aligned} & \text { Typ. Short Circuit Current } \\ & I_{s}(\mu A) @ V_{\mathrm{R}}=5 V_{;} \\ & \mathrm{E}_{\mathrm{e}}=0.5 \mathrm{~mW} / \mathrm{cm}^{2} ; \lambda=940 \mathrm{~nm} \end{aligned}$ | Max. Reverse Dark Current Voltage $\mathrm{ID}_{(\mathrm{R})}(\mathrm{nA}) @ \mathrm{~V}_{\mathrm{R}}=10 \mathrm{~V}$; $\mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2}$ | Min. Reverse Break Down Voltage $\mathrm{V}_{\text {(BRRR }}(\mathrm{V}) @ \mathrm{I}_{\mathrm{R}}=100 \mu \mathrm{~A}$ $\mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTR-C155-DC | Clear | No | 10 | 10 | 33 |
| LTR-C155-DB | Dark | Yes | 10 | 10 | 33 |

## Photodiode_SMD Type



## Photodiode_SMD Type



## Photodiode_SMD Type


$3.0 \times 2.0 \times 1.0 \mathrm{~mm}$


Min. Reverse Break Down Voltage $\mathrm{V}_{\text {(BR)R }}(\mathrm{V}) @ I_{\mathrm{R}}=100 \mu \mathrm{~A}$ $\mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2}$

| Part No. | Lens Color | Visable Light Fiber | Typ. Short Circuit Current $\begin{gathered} \mathrm{I}_{\mathrm{s}}(\mu \mathrm{~A}) @ \mathrm{~V}_{\mathrm{R}}=5 \mathrm{~V} ; \\ \mathrm{E}_{\mathrm{e}}=0.5 \mathrm{~mW} / \mathrm{cm}^{2} ; \lambda=940 \mathrm{~nm} \end{gathered}$ | Max. Reverse Dark Current Voltage $I D_{(R)}(n A) @ V_{R}=10 \mathrm{~V}$; $\mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2}$ | Min. Reverse Break Down $\begin{gathered} \text { Voltage } \mathrm{V}_{\text {(BRIR }}(\mathrm{V}) @ \mathrm{I}_{\mathrm{R}}=100 \mu \mathrm{~A} \\ \mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LTR-S320-DB-L | Dark | Yes | 1.8 | 10 | 33 |

Phototransistors_3mm Through Hole Type


## Phototransistors_3mm Through Hole Type



T1 Top View, 3mm


| Part No. | Lens Color | Visable Light Fiber | $\begin{gathered} \text { Min. On State Collector } \\ \text { Current } \\ \mathrm{I}_{\mathrm{c}(\mathrm{ON})}(\mathrm{mA}) @ \mathrm{~V}_{\mathrm{CE}}=5 \mathrm{~V} ; \\ \mathrm{E}_{\mathrm{e}}=1 \mathrm{~mW} / \mathrm{cm}^{2} ; \lambda=940 \mathrm{~nm} \end{gathered}$ | Max. Dark Current (nA) <br> @ $\mathrm{V}_{\mathrm{CE}}=10 \mathrm{~V}$ | Max. Collector-Emitter Saturation Voltage $\begin{gathered} V_{C E(S A T)}(V) @ I_{c}=100 \mu \mathrm{~A} \\ E_{e}=1 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ | Min. Collector-Emitter Breakdown Voltage $\begin{gathered} V_{\text {(BR)CEO }}(\mathrm{V}) @ I_{\mathrm{c}}=1 \mathrm{~mA} \\ E_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTR-4206 | Water Clear | No | 4 | 100 | 0.4 | 30 |
| LTR-4206E | Dark | Yes | 4 | 100 | 0.4 | 30 |

Phototransistors＿3mm Through Hole Type


## Phototransistors＿3mm Through Hole Type




T1 Top View， 3 mm

| Part No． | Lens Color | Visable Light Fiber | $\begin{gathered} \text { Min. On State Collector } \\ \text { Current } \\ \mathrm{I}_{\mathrm{c}(0 \mathrm{~N})}(\mathrm{mA}) @ \mathrm{~V}_{\mathrm{CE}}=5 \mathrm{~V} ; \\ \mathrm{E}_{\mathrm{e}}=1 \mathrm{~mW} / \mathrm{cm}^{2} ; \lambda=940 \mathrm{~nm} \end{gathered}$ | Max．Dark <br> Current（nA） <br> ＠ $\mathrm{V}_{\mathrm{CE}}=10 \mathrm{~V}$ | Max．Collector－Emitter Saturation Voltage $\begin{gathered} V_{C E(S A T)}(V) @ I_{c}=100 \mu \mathrm{~A} \\ E_{e}=1 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ | Min．Collector－Emitter Breakdown Voltage $\begin{gathered} V_{\text {(BR)CEo }}(V) @ I_{c}=1 \mathrm{~mA} \\ E_{e}=0 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTR－209 | Water Clear | No | 4 | 100 | 0.4 | 30 |
| LTR－209H | Dark | Yes | 4 | 100 | 0.4 | 30 |

## Phototransistors_Side Look



Phototransistors_Side Look


## Phototransistors_Side Look



## Phototransistors_Side Look



## Phototransistors_Side Look



Phototransistors_Side Look


## Phototransistors_Side Look



Phototransistors_SMD Type


## Phototransistors_SMD Type



## Phototransistors_SMD Type



## Phototransistors_SMD Type



| Part No. | Lens Color | Visable Light Fiber | $\begin{gathered} \text { Min. On State Collector } \\ \text { Current } \\ \mathrm{I}_{\mathrm{c}(0 \mathrm{~N})}(\mathrm{mA}) @ \mathrm{~V}_{\mathrm{CE}}=5 \mathrm{~V} ; \\ \mathrm{E}_{\mathrm{e}}=0.5 \mathrm{~mW} / \mathrm{cm}^{2} ; \lambda=940 \mathrm{~nm} \end{gathered}$ | Max. Dark Current (nA) $@ V_{C E}=20 \mathrm{~V}$ | Max. Collector-Emitter Saturation Voltage $\begin{gathered} V_{\text {CE(SAT) }}(\mathrm{V}) @ I_{\mathrm{c}}=100 \mu \mathrm{~A} \\ \mathrm{E}_{\mathrm{e}}=0.5 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ | Min. Collector-Emitter Breakdown Voltage $\begin{gathered} \mathrm{V}_{\text {(BR)CEO }}(\mathrm{V}) @ \mathrm{I}_{\mathrm{c}}=100 \mu \mathrm{~A} \\ \mathrm{E}_{\mathrm{e}}=0 \mathrm{~mW} / \mathrm{cm}^{2} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTR-C950-TB-T | Dark | Yes | 4.5 | 100 | 0.4 | 30 |

## Phototransistors_SMD Type



## Phototransistors_SMD Type



## Phototransistors＿SMD Type



## Photolink＿Transmitter



| Part No． | Data Rate （Mbps） | Operating Voltage（V） |  | Fiber Coupling Light Output（dBm） |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Min | Max | Min | Typ | Max |
| LTDL－TA16A | 16 | 2.75 | 5.25 | －21 | －17 | －15 |
| LTDL－TA25A | 25 | 2.75 | 5.25 | －21 | －17 | －15 |

## Photolink_Transmitter



## Photolink_Transmitter

|  |
| :--- | :--- | :--- |
| Part No. |
| Data Rate |
| (Mbps) |

## Infrared Transceiver



## Infrared Transceiver




## Ambient Light Sensor



## Ambient Light Sensor



## RGB Color Sensor



| 0~0.03 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $2.00 \times 2.00$ | 70 mm |  |  |  |  |  | etector area <br> $.28 \times 0.28 \mathrm{~mm}$ |  |
| Part No. | Description | Package Type | Operating <br> Temp ( ${ }^{\circ} \mathrm{C}$ ) | Supply <br> Voltage (V) | Interface | Interrupt \& Persist | DLS / UV Full Scale ADC Count | Light <br> Range | UV Sensitivity (Count/ UVI) |
| LTR-390UV | UV Sensor + Digital Light Sensor | ChipLED 6 pins | -40 to +85 | 1.7 to 3.6 | I2C fast mode (400kbit/s) | Yes | Up to 20-bit ADC (linear) | 0.01 lux to 157k lux | 1400 |

Proximity Sensor


## Proximity Sensor



## 2-in-1 Integrated Sensor



## 3-in-1 Integrated Sensor



## 3-in-1 Integrated Sensor



## 3-in-1 Integrated Sensor



## 3-in-1 Integrated Sensor

|  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $3.94 \times 2.36 \times 1.35$ | mm |  |  |  |  | Pin-O <br> 1. SD <br> 2. INT <br> 3. $N C$ <br> 4. En- | $\begin{aligned} & \text { t Assignment: } \\ & \text { 5. } L E D A \\ & \text { 6. GND } \\ & \text { 7. SCL } \\ & \text { 8. VDD } \end{aligned}$ |  |  |
| Part No. | Description | Package Type | Operating <br> Temp ( ${ }^{\circ} \mathrm{C}$ ) | Supply <br> Voltage <br> (V) | Interface | Interrupt \& Persist | DLS Full Scale ADC Count | Light <br> Range | PS Full Scale ADC Count | Detection Range (mm) |
| LTR-778ALS | (3-in-1, Small <br> Window, FOV = +/- <br> 36deg)Digital Light <br> Sensor+Proximity <br> Sensor+VCSEL | ChipLED 8 pins | -30 to +70 | $\begin{gathered} 2.7 \text { to } \\ 3.6 \end{gathered}$ | $\begin{aligned} & 12 C \text { fast } \\ & \text { mode } \\ & (400 \mathrm{kbit} / \mathrm{s}) \end{aligned}$ | Yes | 16-bit ADC (linear) | $\begin{aligned} & 0.005 \text { lux } \\ & \text { to } 12 \mathrm{k} \text { lux } \end{aligned}$ | 11-bit ADC(linear) | 0-100 |

## 4-in-1 Integrated Sensor



## 4-in-1 Integrated Sensor


## 4-in-1 Integrated Sensor



## Gesture Integrated Sensor



## Heart Rate Monitoring Sensor

|  | $18.50 \times 15.0$ | 2.90 mm |  |  |  |  | क्ज <br> rientation Markin |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part No. | Description | Package Type | No of Pins | Operating Temp ( ${ }^{\circ} \mathrm{C}$ ) | Supply Voltage (V) | Supply Current (mA), Typ @25Hz | Standby Current (uA), Typ | Interface | Emitter Sensitivity |
| LTR-800HR | AFE Integrated Optical HRM Sensor | FPC connector | 12 | -20 to +85 | 3.0 to 3.6 | 0.76 | 5 | I2C fast mode $(400 \mathrm{kbit} / \mathrm{s})$ | $\begin{aligned} & \text { Green } \\ & (525 \mathrm{~nm}) \end{aligned}$ |

Heart Rate Monitoring Sensor


## Heart Rate Monitoring Sensor



## Heart Rate Monitoring Sensor



Heart Rate Monitoring Sensor


## Reflective Sensor



## Reflective Sensor

Fart No .

## Reflective Sensor

(3)

## Reflective Sensor

Features

Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type
$\qquad$


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



Transmissive Sensor_Slotted Type
(3)

Transmissive Sensor_Slotted Type


## Transmissive Sensor_Slotted Type



## Transmissive Sensor_Actuator Type


## Transmissive Sensor_Actuator Type



## | Photocoupler


package
size $A \times B \times C$

|  |  |  | package | size $A \times B \times C$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | DIP4 | $6.5 \times 4.6 \times 3.5$ |
|  | DIP6 |  | DIP6 | $6.5 \times 7.3 \times 3.5$ |
| DIP8 | DIP8-S2 option | DIP7-SSR | DIP8 | $6.5 \times 9.68 \times 3.5$ |
|  | DIP16 |  | DIP16 | $6.5 \times 19.84 \times 3.5$ |
|  |  |  | SOP4 | $4.4 \times 3.85 \times 2.0$ |
|  | SOP5 |  | SOP5 | $4.4 \times 3.6 \times 2.3$ |
|  | SOP8 |  | SOP8 | $3.91 \times 5.84 \times 3.18$ |
|  |  |  | LSOP4 | $7.5 \times 3.8 \times 2.0$ |
| LSOP5 | LSOP6-P type | LSOP6-W type | LSOP6 | $6.81 \times 4.5 \times 3.18$ |
|  | SSOP4 |  | SSOP4 | $4.4 \times 2.6 \times 2.0$ |
|  | SSOP8 |  | SSOP8 | $4.4 \times 5.2 \times 2.0$ |
|  | SSOP16 |  | SSOP16 | $4.4 \times 10.28 \times 2.0$ |

## Photocoupler package



## General Purpose Phototransistor Photocoupler

A general purpose Photocoupler is the most common and preferred choice for providing isolated feedback in a regulation loop. They are available in 1-channel, 2-channel and 4-channel, both DC and AC inputs, to suit the requirements of multiple isolation such as interfaces between logic circuits

Application
-Ground loop elimination

- Interface between logic circuits
- Level shifting
- Regulation feedback circuits in SMPS


| Part No. | Device | Feature | Package | Viso (Vrms) | Vceo(V) min. | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \max (\%) \end{gathered}$ | $\mathrm{I}_{\mathrm{F}}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

LTV-214


AC input, High Vceo SSOP4 3750 8 . 20 400 $\pm 1$

LTV-224


AC input, $\begin{array}{lllllll}2 \text { 2 Channels, } & \text { SSOP8 } & 3750 & 80 & 20 & 400 & \pm 1\end{array}$ High Vceo

AC input,

| 4 Channels, | SSOP16 | 3750 | 80 | 20 | 400 | $\pm 1$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

LTV-814


AC input
DIP4 5000 35 20 300 $\pm 1$

LTV-824


AC input, 2 Channels DIP8 5000 35 20 300
$\pm 1$

LTV-844


LTV-733


AC input,
$\begin{array}{lllllll}\text { With Base } & \text { DIP6 } & 5000 & 35 & 20 & - & \pm 1\end{array}$
Connection

Part No.
Device

DC input,
LTV-217
 $\begin{array}{lllllll}\text { High Vceo } & \text { SSOP4 } & 3750 & 80 & 80 & 600 & 5\end{array}$

LTV-227


DC input, $\begin{array}{lllllll}\text { 4 Channels, } & \text { SSOP16 } & 3750 & 80 & 80 & 600 & 5\end{array}$ High Vceo
LTV-247


DC input,
$\begin{array}{lllllll}2 \text { Channels, } & \text { SSOP8 } & 3750 & 80 & 80 & 600 & 5\end{array}$ High Vceo

| LTV-200 |
| :--- |
| LTV-205 |
| LTV-206 |
| LTV-207 |
| LTV-208 |



|  | 3750 | 80 | 20 | 320 | 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| DC input, <br> Channels, <br> High Vceo SOP8 | 3750 | 80 | 40 | 80 | 10 |
|  | 3750 | 80 | 63 | 125 | 10 |
| 3750 | 80 | 100 | 200 | 10 |  |
|  | 3750 | 80 | 160 | 320 | 10 |

LTV-354T


| LTV-358T |  |  | DC input, <br> Very High Vceo | SOP4 | 3750 | 120 | 80 | 400 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTV-356T |  | $4$ | DC input, High Vceo | SOP4 | 3750 | 80 | 50 | 600 | 5 |
| LTV-357T |  | ${ }^{3}$ | DC input | SOP4 | 3750 | 35 | 50 | 600 | 5 |
| LTV-1000 |  |  |  |  | 5000 | 70 | 50 | 600 | 5 |
| LTV-1001 |  |  |  |  | 5000 | 70 | 100 | 160 | 5 |
| LTV-1002 |  |  |  |  | 5000 | 70 | $\begin{aligned} & 22 \\ & 63 \end{aligned}$ | 125 | $\begin{gathered} 1 \\ 10 \end{gathered}$ |
| LTV-1003 |  |  |  |  | 5000 | 70 | $\begin{gathered} 34 \\ 100 \end{gathered}$ | 200 | $\begin{gathered} 1 \\ 10 \end{gathered}$ |
| LTV-1004 |  |  |  |  | 5000 | 70 | 100 | 200 | 5 |
| LTV-1005 |  | $4$ | DC input, |  | 5000 | 70 | 50 | 150 | 5 |
| LTV-1006 |  |  | High Vceo, | LSOP4 | 5000 | 70 | 100 | 300 | 5 |
| LTV-1007 |  | $3$ | distance $>8 \mathrm{~mm}$ |  | 5000 | 70 | 80 | 160 | 5 |
| LTV-1008 |  |  |  |  | 5000 | 70 | 130 | 260 | 5 |
| LTV-1009 |  |  |  |  | 5000 | 70 | 200 | 400 | 5 |
| LTV-1010 |  |  |  |  | 5000 | 70 | 150 | 300 | 5 |
| LTV-1014 |  |  |  |  | 5000 | 70 | 56 160 | 320 | 1 10 |
| LTV-1018 |  |  |  |  | 5000 | 70 | 100 | 200 | 1 |
| LTV-1019 |  |  |  |  | 5000 | 70 | 250 | 500 | 5 |

## General Purpose Phototransistor Photocoupler

| Cart No. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| LTV-1100 |
| LTV-1101 |

## Darlington Transistor Output Photocoupler

These photocouplers provide a very high current transfer ratio from a low input forward current. In addition, they are available in DC and AC inputs by DIP package as well as 2.0 mm profile (mini-flat) package to increase designers' options. High input-output isolation voltage and high collector-emitter voltage also add to the benefits for many power distribution applications.

Application

- Hybrid substrates that require high density mounting
- Telephone sets
- Copiers, facsimiles
- Interfaces with various power supply circuits, power
 distribution boards
Part No.


## Darlington Transistor Output Photocoupler

| Part No. | Device | Feature | Package | Viso (Vrms) | Vceo(V) min. | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \max (\%) \end{gathered}$ | $\mathrm{I}_{\mathrm{F}}(\mathrm{mA})$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTV-8141 |  | AC input | DIP4 | 5000 | 35 | 600 | 7500 | $\pm 1$ |
| LTV-8241 |  | AC input, 2 Channels | DIP4 | 5000 | 35 | 600 | 7500 | $\pm 1$ |
| LTV-8441 |  | AC input, 4 Channels | DIP4 | 5000 | 35 | 600 | 7500 | $\pm 1$ |
| LTV-715F |  | DC input <br> Without Base <br> Connection | DIP6 | 5000 | 35 | 600 | 7500 | 1 |
| LTV-725F |  | DC input, <br> Very High Vceo <br> With Base <br> Connection | DIP6 | 5000 | 300 | 1000 | 15000 | 1 |
| LTV-725V |  | DC input, <br> Very High Vceo <br> With Base <br> Connection | DIP6 | 5000 | 300 | 1000 | 15000 | 1 |
| LTV-352T |  | DC input, High Vceo | SOP4 | 3750 | 300 | 1000 | - | 1 |
| LTV-852 |  | DC input, High Vceo | DIP4 | 5000 | 300 | 1000 | 15000 | 1 |

## Triac Output Photocoupler

Triac output photocouplers provide a high isolation voltage between input and output Viso of $3,750 \mathrm{Vrms}$ (SOP)/5,000Vrms(DIP6). With two options of zerocrossing and non-zero crossing type of triac driver output, it will provide flexibility for circuit designers.

Other benefits include high Off-State Output Terminal Voltage ( $400 \mathrm{~V}, 600 \mathrm{~V} \& 800 \mathrm{~V}$ ) and high critical rate of rise of off-state voltage (min $1000 \mathrm{~V} / \mu \mathrm{s}$ ).

Application


## 1MBd Transistor Output photocoupler

These photocouplers consist of a high efficiency AIGaAs Light Emitting Diode and a high speed optical detector. This design provides excellent AC and DC isolation between the input and output sides of the photocoupler. The connection for the bias of the photodiode improves upon the speed of a conventional phototransistor coupler by reducing the base-collector capacitances. The internal shield ensures high common mode transient immunity. A guaranteed common mode transient immunity is up to $15 \mathrm{KV} / \mu \mathrm{sec}$.

Application

- High Voltage Isolation
- Isolation in line receivers
- Feedback element in switching mode power supplies
- Power transistor isolation in motor drives
- Interface between Microprocessor system, computer and their peripherals

| Part No. | Device | Feature | Package | $\begin{aligned} & \mathrm{V}_{\mathrm{DD}}(\mathrm{~V}) \\ & \max . \end{aligned}$ | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \max (\%) \end{gathered}$ | $\begin{aligned} & I_{F_{(0 n)}} \\ & (\mathrm{mA}) \end{aligned}$ | tPLH (us) | tPHL <br> (us) | $\begin{gathered} \mathrm{CM}_{\mathrm{L}} \\ \mathrm{CM}_{\mathrm{H}} \\ \operatorname{Min}(\mathrm{~V}) \end{gathered}$ | $\begin{gathered} \text { Viso } \\ \min _{\text {(Vrms) }} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6N135-L |  | DC Input | DIP8 | 15 | 7 | 50 | 16 | 1.5 | 1.5 | 1000 | 5000 |
| 6N136-L |  | DC Input | DIP8 | 15 | 19 | 50 | 16 | 0.8 | 0.8 | 1000 | 5000 |
| 6N135-H |  | DC Input | DIP8 | 30 | 7 | 50 | 16 | 1.5 | 1.5 | 10000 | 5000 |
| 6N136-H |  | DC Input | DIP8 | 30 | 19 | 50 | 16 | 0.8 | 0.8 | 10000 | 5000 |
| LTV-M501 |  | DC Input | SOP5 | 30 | 20 | 50 | 16 | 0.8 | 0.8 | 15000 | 3750 |
| LTV-0501 |  | DC Input | SOP8 | 30 | 19 | - | 16 | 0.8 | 0.8 | 15000 | 3750 |
| LTV-053L |  | DC Input, Dual channel | SOP8 | 30 | 19 | - | 16 | 0.8 | 0.8 | 15000 | 3750 |
| LTV-50LW <br> LTV-50LP |  | DC Input | LSOP6 | 30 | 20 | - | 16 | 0.8 | 0.8 | 15000 | 5000 |

## 10MBd Logic Gate/ 15MBd CMOS Photocoupler

These high gain series couplers use a AIGaAs LED and an integrated high gain photo detector to provide an extremely high current transfer ratio between input and output. Separate pins for the photodiode and output stage result in TTL compatible saturation voltage and high speed operation. Where desired the Vcc and Vo terminals may be tied together to achieve conventional photo Darlington operation. A base access terminal allows a gain bandwidth adjustment to be made.

| Application |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - High Voltage Isolation |  |  |  |  |  |  |  |  |  |  |  |
| - Isolation in line receivers |  |  |  |  |  |  |  |  |  |  |  |
| - Ground loop elimination |  |  |  | - Pulse transformer replacement |  |  |  |  |  |  |  |
| - Feedback Element in Switching Mode Power Supplies |  |  |  | - Power transistor isolation in motor drives |  |  |  |  |  |  |  |
| High Speed Logic Ground Isolation TTL / TTL, TTL / CMOS, TTL / LSTTL |  |  |  | - Interface between Microprocessor system, computer and their peripherals |  |  |  |  |  |  |  |
| Part No. | Device |  | Feature | Package | $\mathrm{V}_{\mathrm{DD}}(\mathrm{V})$ | $\begin{gathered} I_{\text {F(on) }} \\ \min (\mathrm{mA}) \end{gathered}$ | $\begin{aligned} & \text { tPLH(ns) } \\ & \text { Max } \end{aligned}$ | $\begin{aligned} & \text { tPHL(ns) } \\ & \text { Max } \end{aligned}$ | $\begin{aligned} & \text { PWD(ns) } \\ & \text { MAX } \end{aligned}$ | $\begin{gathered} \mathrm{CM}_{\mathrm{L}} \\ \mathrm{CM}_{\mathrm{H}} \\ \operatorname{Min}(\mathrm{~V}) \end{gathered}$ | $\begin{aligned} & \text { Viso } \\ & \text { min } \\ & (\text { Vrms }) \end{aligned}$ |
| 6N137-L |  | 8 vcc <br> 7 ve <br> 6 vo <br> 5 GND | DC input, <br> 10 MBd , <br> Logic Gate output | DIP8 | 3.3/5 | 5 | 90 | 75 | 35 | 10000 | 5000 |
| LTV-M601 |  | 6 vcc <br> 5 Vo <br> 4 GND | DC input, <br> 10 MBd , <br> Logic Gate output | SOP5 | 3.3/5 | 5 | 90 | 75 | 35 | 10000 | 3750 |
| LTV-0601 |  | 8 vcc <br> 7 ve <br> 6 vo <br> 5 GND | DC input, <br> 10 MBd , <br> Logic Gate output | SOP8 | 3.3/5 | 5 | 90 | 75 | 35 | 10000 | 3750 |
| LTV-063L |  | 8 vcc <br> 7 vo <br> 6 v 。 <br> 5 and | DC input, 10 MBd , Dual channel, Logic Gate output | SOP8 | 3.3/5 | 5 | 90 | 75 | 35 | 10000 | 3750 |
| LTV-60LW <br> LTV-60LP |  |  | DC input, <br> 10 MBd , <br> Logic Gate output | LSOP6 | 3.3/5 | 5 | 90 | 75 | 35 | 10000 | 5000 |
| LTV-071L |  | 8 VDD <br> 7 NC <br> 6 vo <br> 5 GND | DC input, 15MBd, Totem Pole output | SOP8 | 3.3/5 | 5 | 60 | 60 | 30 | 10000 | 3750 |
| LTV-074L |  | 8 Vcc <br> 7 vo <br> 6 vo <br> 5 GND | DC input, 15MBd, Dual chnnel, Totem Pole output | SOP8 | 3.3/5 | 5 | 60 | 60 | 30 | 10000 | 3750 |
| LTV-70LW <br> LTV-70LP |  |  | DC input, <br> 15MBd, <br> Totem Pole output | LSOP6 | 3.3/5 | 5 | 60 | 60 | 30 | 10000 | 5000 |

## 100kBd Darlington Output Photocoupler

These high gain series couplers use a AIGaAs LED and an integrated high gain photo detector to provide an extremely high current transfer ratio between input and output. Separate pins for the photodiode and output stage result in TTL compatible saturation voltage and high speed operation. Where desired the Vcc and Vo terminals may be tied together to achieve conventional photo Darlington operation. A base access terminal allows a gain bandwidth adjustment to be made.

## Application

- Digital logic ground isolation
- Low input current line receiver
- Telephone ring detector
- EIA-RS-232C line receiver
- Current loop receiver
- High common mode noise line receiver

| Part No. | Device | Feature | Package | $\mathrm{V}_{\mathrm{DD}}(\mathrm{V})$ | $\begin{aligned} & \mathrm{I}_{\text {f(on) }} \\ & \min \\ & (\mathrm{mA} A) \end{aligned}$ | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \mathrm{I}_{\mathrm{F}} \\ (\mathrm{~mA}) \end{gathered}$ | tPLH (us) | tPHL (us) | $\begin{gathered} \mathrm{CM}_{\mathrm{L}} \\ \mathrm{CM}_{\mathrm{H}} \\ \operatorname{Min}(\mathrm{~V}) \end{gathered}$ | $\begin{gathered} \text { Viso } \\ \min _{\text {(Vrms) }} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6N138-L |  | DC input | DIP8 | 3.3/5 | 1.6 | 400 | 1.6 | 35 | 10 | 1000 | 5000 |
| 6N139-L |  | DC input | DIP8 | 3.3/5 | 0.5 | $\begin{aligned} & 300 \\ & 500 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.6 \end{aligned}$ | 60 | 25 | 1000 | 5000 |
| LTV-M701 |  | DC input | SOP5 | 3.3/5 | 1.6 | $\begin{aligned} & 400 \\ & 500 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.6 \end{aligned}$ | 10 | 2 | 1000 | 3750 |
| LTV-0701 |  | DC input | SOP8 | 3.3/5 | 0.5 | $\begin{aligned} & 400 \\ & 500 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.6 \end{aligned}$ | 10 | 2 | 1000 | 3750 |
| LTV-073L |  | DC input, Dual channel | SOP8 | 3.3/5 | 0.5 | $\begin{aligned} & 400 \\ & 500 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.6 \end{aligned}$ | 60 | 25 | 1000 | 3750 |

## Integrated Gate Drive Photocoupler

These photocouplers are ideally suited for driving power IGBTs and MOSFETs used in motor control inverter applications and inverters in power supply system. It contains an AIGaAs LED optically coupled to an integrated circuit with a power output stage. The 2.5A~3A peak output current is capable of directly driving most IGBTs with ratings up to $1200 \mathrm{~V} / 100 \mathrm{~A}$. The photocoupler operational parameters are guaranteed over the temperature range from $-40^{\circ} \mathrm{C} \sim+105^{\circ} \mathrm{C}$.

## Application

- IGBT/MOSFET gate drive
- Uninterruptible power supply (UPS)
- Industrial Inverter
- Motor Dirve
- Induction Heat Cooker
Part No.

Integrated Gate Drive Photocoupler

| Part No. | Device | Feature | Package | $I_{\text {F(on) }}$ min (mA) | Peak Output Current $\min (A)$ | Peak Output Current $\max (\mathrm{A})$ | tPLH <br> (us) <br> Max | tPHL <br> (us) <br> Max | $\begin{gathered} \text { PWD } \\ \text { (ns) } \\ \text { Max } \end{gathered}$ | Supply Voltage (Vcc) | $\begin{gathered} \mathrm{CM}_{\mathrm{L}} \\ \mathrm{CM}_{\mathrm{H}} \\ \operatorname{Min}(\mathrm{~V}) \end{gathered}$ | $\begin{gathered} \text { Viso } \\ \text { min } \\ \text { (Vrms) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTV-341W <br> LTV-341P |  | DC Input, <br> Rail-to-Rail <br> Output Voltage, <br> Low power <br> dissipation | LSOP6 | 7 | 2.5 | 3 | 0.2 | 0.2 | 70 | 15-35 | 35000 | 5000 |
| LTV-340W <br> LTV-340P |  | DC Input, <br> Rail-to-Rail Output Voltage, Low power dissipation | LSOP6 | 7 | 0.8 | 1 | 0.2 | 0.2 | 70 | 15-35 | 35000 | 5000 |
| LTV-314W <br> LTV-314P |  | DC Input, <br> Rail-to-Rail <br> Output Voltage, <br> Low power <br> dissipation | LSOP6 | 7 | 0.8 | 1 | 0.2 | 0.2 | 70 | 10-35 | 25000 | 5000 |
| LTV-0314 |  | DC Input, <br> Rail-to-Rail <br> Output Voltage, <br> Low power <br> dissipation | SOP8 | 7 | 0.8 | 1 | 0.2 | 0.2 | 70 | 10-35 | 25000 | 3750 |

## Schmitt Trigger

Liteon H11Lx－L has a high－speed integrated circuit detector（5Mbd typical）optically coupled to infrared emitting diode．The output incorporates a Schmitt Trigger which provides hysteresis for noise immunity and pulse shaping．

Application
－Logic to logic isolator
－Programmable current level sensor

－Line receiver—eliminate noise and transient problems
－Digital programming of power supplies
－A．C．to TTL conversion－square wave shaping
－Interfaces computers with peripherals
Part No．

## Intelligent Power Module Interface Photocoupler

Lite-On offers photocouplers ideal for isolated interfacing to an intelligent power module (IPM). IPM-drive photocouplers are available with an output in open-collector and inverting and noninverting totem-pole configurations. Therefore, you can find optimal photocouplers that best fit your needs, regardless of the input configuration (active level) of the driven IPM.

## Application

- Intelligent power module
- Inverter/Motor control
- Power switch design
- General purpose digital isolation

| Part No. | Device | Feature | Package | $\begin{aligned} & \mathrm{I}_{\text {f(on) }} \\ & \text { min } \\ & (\mathrm{mA}) \end{aligned}$ | $\begin{gathered} \mathrm{I}_{\mathrm{o}} \\ (\mathrm{~mA}) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \max (\%) \end{gathered}$ | $\begin{gathered} \mathrm{I}_{F} \\ (\mathrm{~mA}) \end{gathered}$ | $\begin{aligned} & \text { tPLH } \\ & \text { (us) } \end{aligned}$ | $\begin{aligned} & \text { tPHL } \\ & \text { (us) } \end{aligned}$ | $\begin{aligned} & \mathrm{P}_{\mathrm{PD}} \\ & \text { max } \\ & \text { (us) } \end{aligned}$ | $\begin{aligned} & v_{c c} c \\ & \max \\ & (\mathrm{~V} \end{aligned}$ | $\begin{aligned} & \mathrm{C}_{\mathrm{ML}} \\ & \mathrm{CM}_{H} \\ & \mathrm{Min} \\ & (\mathrm{~V}) \end{aligned}$ | $\begin{aligned} & \text { Viso } \\ & \text { (Vrms) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTV-M480 |  | DC Input, IPM Totem Pole output, buffer logic | SOP5 | 1.6 | 160 | - | - | - | 0.2 | 0.22 | 0.21 | 35 | 20000 | 3750 |
| LTV-M481 |  | DC Input, <br> IPM Totem <br> Pole output, <br> Inverted logic | SOP5 | 4 | 160 | - | - | - | 0.16 | 0.16 | 0.16 | 35 | 20000 | 3750 |
| LTV-480W <br> LTV-480P |  | DC Input, <br> IPM Totem <br> Pole output, buffer logic | LSOP6 | 1.6 | 160 | - | - | - | 0.2 | 0.22 | 0.21 | 35 | 20000 | 5000 |
| LTV-481W <br> LTV-481P |  | DC Input, IPM Totem Pole output, Inverted logic | LSOP6 | 4 | 160 | - | - | - | 0.16 | 0.16 | 0.16 | 35 | 20000 | 5000 |
| LTV-0480 |  | DC Input, IPM Totem Pole output, buffer logic | SOP8 | 1.6 | 160 | - | - | - | 0.2 | 0.22 | 0.21 | 35 | 20000 | 3750 |
| LTV-0481 |  | DC Input, <br> IPM Totem <br> Pole output, Inverted logic | SOP8 | 4 | 160 | - | - | - | 0.16 | 0.16 | 0.16 | 35 | 20000 | 3750 |


| Part No. | Device | Feature | Package | $\begin{aligned} & I_{F(O n)} \\ & \min \\ & (\mathrm{mA}) \end{aligned}$ | $\begin{gathered} \mathrm{I}_{0} \\ \min \\ (\mathrm{~mA}) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \min (\%) \end{gathered}$ | $\begin{gathered} \text { CTR } \\ \max (\%) \end{gathered}$ | $\begin{gathered} \mathrm{I}_{\mathrm{F}} \\ (\mathrm{~mA}) \end{gathered}$ | tPLH <br> (us) | tPHL <br> (us) | $\mathrm{P}_{\mathrm{DD}}$ <br> (us) | $\mathrm{V}_{\mathrm{cc}}$ max <br> (V) | $\mathrm{C}_{\mathrm{ML}}$ <br> $\mathrm{CM}_{\mathrm{H}}$ <br> Min <br> (V) | Viso (Vrms) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LTV-4800 |  | DC Input, IPM Totem Pole output, buffer logic | DIP8 | 1.6 | 160 | - | - | - | 0.2 | 0.22 | 0.21 | 35 | 20000 | 5000 |
| LTV-4800-7 |  | DC Input, IPM Totem Pole output, buffer logic | DIP8 | 1.6 | 160 | - | - | - | 0.2 | 0.22 | 0.21 | 35 | 20000 | 5000 |
| LTV-4801 |  | DC Input, IPM Totem Pole output, Inverted logic | DIP8 | 4 | 160 | - | - | - | 0.16 | 0.16 | 0.16 | 35 | 20000 | 5000 |
| LTV-M456 |  | DC Input, IPM open collector output | SOP5 | 10 | 4.4 | 44 | >90 | 10 | 0.55 | 0.4 | 0.45 | 35 | 15000 | 3750 |
| LTV-456W <br> LTV-456P |  | DC Input, IPM open collector output | LSOP6 | 10 | 4.4 | 44 | >90 | 10 | 0.55 | 0.4 | 0.45 | 35 | 15000 | 5000 |
| LTV-0456 |  | DC Input, IPM open collector output | SOP8 | 10 | 4.4 | 44 | >90 | 10 | 0.55 | 0.4 | 0.45 | 35 | 15000 | 3750 |
| LTV-4506 |  | DC Input, IPM open collector output | DIP8 | 10 | 4.4 | 44 | >90 | 10 | 0.55 | 0.4 | 0.45 | 35 | 15000 | 5000 |

## | UV LED

## UV LED



## UV LED



## UV LED


## Worldwide Contacts

## AUSTRALIA

## Arrow Electronics Australia Pty Ltd．

14 Nicole Close，Bayswater North， VIC 3153，Australia

C：＋61－3－9737－4900
用：＋61－3－9737－4999

## Arrow Electronics Australia

 Pty Ltd．Suite 203，Level 2， 51 Rawson Street，Epping，NSW 2121，Asutralia
C ：＋61－2－9868－9900
用：＋61－2－9868－9901

## CHINA

Cirtek Resources Corp．， Shenzhen Branch

2803，No． 1 Block，News
Building， 1002 Shennan Zhong Rd Futian District，Shenzhen

C ：＋86－755－8209－0400
唈：＋86－755－8209－0121

## Cirtek Resources Corp．， Suzhou Branch

Suite 1202，Century Financial Tower No．1，Suzhou Avenue West， Suzhou Industrial Park，
Suzhou Jiangsu China
C ：＋86－512－6827－9928
觛：＋86－512－6750－7829

Holder Electronics Co．，LTD
Xiamen Office（ Headquarter ）
C ：＋86－592－520－5266
Beijing Office
C ：＋86－10－6445－5422
Tianjin Office
C．＋86－22－8426－7382

Shanghai Office
C：＋86－21－6172－4979

Qingdao Office
C．＋86－532－8501－2819

Nanjing Office
C．＋86－25－8647－2879

Suzhou Office
C． $\mathrm{+} 86-512-6805-7919$

Shenzen Office
C ：＋86－755－3397－0687
Chengdu Office
C ：＋86－28－8620－2699

## HK WACHING ELECTRONIC （GROUP）LIMITED

B－9D，Buidling 2，Jinyuan Time Commercial Center Yuanda Rd， Haidian District，Beijing，China
C ：＋86－10－5126－6018
细：＋86－10－8886－1752

## JYHARN ELECTRONIC TECH（SUZHOU）CO．，LTD

3207 Gold River In＇tl Tower， 35 Shi Shan Road，Suzhou New District，China（ZIP CODE ：215011）

C ：＋86－512－6809－1267
倫：＋86－512－6809－6127

## JYHARN ELECTRONIC

 TECH（SHEN ZHEN）CO．，LTDRoom 1516 15／F，Dong Min Building，No． 284 Min Kang Road Min Zhi Street，Bao An District， Shenzhen China

C ：＋86－755－8374－0548
：$+86-755-8374-0555$

Lucky Star International （Shanghai）Co．，Ltd
Room 702，No．4，Lane 300，Liu Zhou Rd，Shanghai，China 200235
C ：＋86－21－6408－9175～6
绝：＋86－21－6408－9173

## Lumax International Corp．，LTD

C．D Room，23／F，West Block，
Aidi Building，Binhe Road，Futian， ShenZhen，China
C ：＋86－755－8882－3588
俞：＋86－755－8358－1869

## SUNRISETEK CO．，LTD． SHENZHEN Branch

Room 421，Zone B，Huameiju Business Center，Xinhu Road， Bao＇an District，Shenzhen City

C ：＋86－755－2744－7189
㷁：＋86－755－3366－2566

## SUNRISETEK CO．，LTD．

 SUZHOU BranchRoom 904，Block C，Wanda Square， No． 3188 Renmin Road，Suzhou City，Jiangsu Province，P．R．China

```
C ：＋86－512－6721－5657
缃：＋86－512－6876－6351
```


## WPG China Inc． ChengDou Branch Office

Room 1001，Building 8，Tianfu Xingu，No． 399 Western Section of Fucheng Road Hi－Tech Zone， Chengdu，China
C ：＋86－28－8528－9586
䚡：＋86－28－8518－8021

WPG China Inc． ChongQin Rep．Office

No．3205，LongHu Building 4， No．166，Xinnan Road，Noth New District，Chongqing，China
C．：＋86－23－8691－5289
细：＋86－23－8691－5286

## WPG China Inc． FuZhou Rep．Office

Room1602，16／F Worldwide Plaza， 158 Wusi Road，Fuzhou
P．R．C 350003
C ：＋86－591－8780－4393
周：＋86－591－8781－2090

## WPG China Inc． Hangzhou Branch Office

Room 805，Tianji Building，No．181， Tianmushan Road，Xihu District， Hangzhou

C．：＋86－571－8724－1995
唈：＋86－571－8729－9895

## WPG China Inc． Nan Jing Rep．Office

Room 908，Block A，New Century Plaza， 288 Zhongshan East Road，Nanjing，China
C ：＋86－25－5226－0028
细：＋86－25－8440－7646

## WPG China Inc． Ningbo Rep．Office

Room 1701，Block 1，Shangdong International Building，No．1926， Canghai Road，Jiangdong District， Ningbo，China．

C ：＋86－574－8793－7751
俋：＋86－574－8793－8390

## WPG China Inc． Qingdao Branch Office

Room 2301，No． 1 Building，Minghui Internation，\＃39 Shiling Road， Laoshan District，Qingdao

C ：＋86－532－8099－5180
㖮：＋86－532－8099－0926

## WPG China Inc． Shanghai Office

No． 371555 Lane West Jingshajiang Road Jiading，District Shanghai，PRC

C ：＋86－21－2309－9388
䚡：＋86－21－6951－2695
＋86－21－6951－2720

## WPG China Inc． Suzhou Branch Office

24F，No．1296，Ganjiang Road West， Gusu District，Suzhou City，
PR．China 215004
C：$+86-512-6807-9366$
用：＋86－512－6809－8573

## WPG China Inc． Tianjin Rep．Office

No．2002，JieYuan Apartment， JieYuan Street，HongQiao District， TianJin City

C ：＋86－022－8729－7002
毕：＋86－022－8729－7002

## WPG China Inc． Xiamen Branch Office

Room 02－03，19／F，HaiYi Building A， No． 666 XiaHe Road，Xiamen，
Fujian Province，P．R．C
C ：＋86－592－239－8161
唃：＋86－592－211－7595

WPG China Inc．
301Room Juntian Building， No． 1131 Xidian Country， Gaobeidian Village， Chaoyang District，Beijing City
C：$+86-10-5783-5658$
细：$+86-10-5915-4118$

WPG China（SZ）Inc． Changsha Rep．Office

Room 2415，Xinglong
international plaza，Kaiyuan Road， Xingsha county，Changsha，Hunan
C ：＋86－0731－8403－8966
㖮：＋86－0731－8403－8969

WPG China（SZ）Inc． Dongguan Changping Rep． Office

Room 1813－1816，18th Floor， Jiajun Center，No．8，Changdong Rd，Changping Town，Dongguan
C ：＋86－769－2339－9901
倫：＋86－769－2339－9908

WPG China（SZ）Inc． Guangzhou Branch Office

Room506－507，TianHeFuLi Business Mansion，No．4，HuaTing Rd，GuangZhou，P．R．C

C ：＋86－20－3833－5540
赂：＋86－20－3839－5448

WPG China（SZ）Inc．
Block 2，Kai Da Er Building，No． 168
TongSha Road，XiLi Town，
Nanshan，Shenzhen，P．R．C
C ：＋86－755－2671－1655
俞：＋86－755－2399－2286

WPG China（SZ）Inc． Zhuhai Rep．Office
Room 201，Ming Men buiding， No． 2188 YingBin South Road， Gongbei district，Zhuhai， Guangdong Province

C ：＋86－756－812－3571
细：＋86－756－812－3570

## Yosun Hong Kong Corp． Limited

Units 07－11，15／F，CDW Building， 388 Castle Peak Road，Tsuen Wan， New Territories，Hong Kong

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C : +852-2365-4860
|
```


## ｜INDIA

## Arrow Electronics India Pvt Ltd．，

Fortune Summit Park，5th Floor，
Ward No．174，6th Sector HSR
Layout，Roopena Agrahara， Bangalore－560068
C．：＋91－80－4135－3822
㖮：＋91－80－4135－3838

## AVNET TECHNOLOGY SOLUTIONS（INDIA）PVT．LTD．

No．402，4th Floor，Tower B－RMZ
Infinity，Old Madras Road， Bangalore－ 560016

C ：＋91－80－4060－4210
俻：＋91－80－4060－4060

WesCal Electronics（India）Pvt． Ltd．
\＃35，2nd Floor，Krishnapuri
Colony，West Marredpally，
Secunderabad－ 500026
C ：＋91－40－2771－0405
＋91－40－2771－0406
掄：＋91－40－2771－0407

## KOREA

## Jaytronics Ins．

15F，Daerung Technotown， 12 Cha，327－32＇Gasan－Dong， Seoul 153－802

C ：＋82－2－2705－4942
昭：＋82－2－2060－3399

## SINGAPORE

## Arrow Eletronics Asia（S） Pte Ltd

750E Chai Chee Road，\＃07－01／02
Viva Business park，
Singapore 469005
C ：＋65－6559－8388
目：＋65－6443－8662

## AVNET Asia Ptd Ltd

151 Lorong Chuan，\＃06－03
New Tech Park Singapore 556741
C ：＋65－6580－6078
绊：＋65－6580－6121

## Future Electronics

11 Tampines Concourse \＃03－01， Singapore 528729
C ：＋65－6808－3888
㲋：＋65－6808－3886

## TAIWAN

Arrow Electronics／ Ultra Source Technology

17F，No．150，Jian 1st Road， Zhonghe Dist．New Taipei City 23511，Taiwan

C ：＋886－2－7722－5168
细：＋886－2－7723－8168

## Arrow Electronics／Ultra Source

10F－2，No．439，Dashun 1st Road， Gushan District，Kao Hsiung City 80452，Taiwan

C ：＋886－7－972－4288
用：＋886－7－972－4289

## Arrow Electronics

5F．，No．176，Sec．2，Gongdao 5th Road，East Dist．，Hsinchu City 30070，Taiwan

C ：＋886－3－620－1968
㶲 ：＋886－3－620－2188

## Cirtek Resources Corp．

9F，No．34，Sec．3，Pa－The Rd．， Taipei，Taiwan
C．：＋886－2－2570－2349
㖮：＋886－2－2578－5937

## Imperial Star Corp．

6F－4，No．27，Lane 61，Sec．1， Kuang－Fu Road．，Sanchung District 24158 ，New Taipei City，Taiwan
C ：＋886－2－2999－1152
㖮：＋886－2－2999－1165

JYHARN ELECTRONIC TECH． CO．，LTD．Taipei Rep．Office
14F．，No．258，Liancheng Rd．，
Zhonghe Dist．，
New Taipei City 23553，Taiwan
C ：＋886－2－8227－2323
唃：＋886－2－8227－2525

## JYHARN ELECTRONIC TECH．

CO．，LTD．Hsinchu Rep．Office
8F．－6，No．472，Sec．1，Guangfu Rd．， East Dist．，Hsinchu City 300，Taiwan

C．：＋886－3－563－4545
焗 ：＋886－3－563－4515

## JYHARN ELECTRONIC TECH． <br> CO．，LTD． <br> Kaohsiung Headquarter

No．396，Tzengtz Rd．，Zuoying Dist．，Kaohsiung，Taiwan
C ：＋886－7－347－8166
用：＋886－7－347－8181

Lumax International Corp．，Ltd． 1
2F．，No．3－1，Park St．，Nangang District，Taipei City 11503，Taiwan
（Nangang Software Park）
C ：＋886－2－2788－3656
用：＋886－2－2788－7226

## Silicon Application Corp

18F．，No．2，Jian 8th Rd．，Zhonghe
Dist．，New Taipei City 235，Taiwan
C ：＋886－2－8226－1500
㖮：＋886－2－8226－1503

## SUNRISETEK Co．，LTD． Head Office

4F．，No．101，Jian 1st Rd．，
Zhonghe Dist．，
New Taipei City 235，Taiwan
C：＋886－2－2223－5358
㽗：＋886－2－2221－3858

## Yosun Industrial Corp． Hsinchu Rep．Office

5th Floor－4，295，Section 2，
Kuangfu Rd．，Hsinchu City 300， Taiwan

C．：＋886－3－5715－107
侷：＋886－3－5715－353

## Yosun Industrial Corp． Kaohsiung Rep．Office

14F．，No．77，Liwen Rd．，Zuoying
Dist．，Kaohsiung City 813，Taiwan
C．：＋886－7－559－2307
偋：＋886－7－559－2518

## Yosun Industrial Corp． Taichung Rep．Office

7th Floor－6，241，Section 3，
Wenshin Rd．，Shitun District，
Taichung 407，Taiwan
C ：＋886－4－2292－9934
俻：＋886－4－2292－9941

## Yosun Industrial Corp． Taipei Headquarter

9F．，No．489，Sec．2，Tiding Blvd．， Neihu Dist．，Taipei City 114，Taiwan
C ：＋886－2－2659－8168
鲖：＋886－2－2659－8167

## ｜AUSTRIA

## Arrow Electronics

Landstraßer Hauptstraße 97－101／ Stiege 1 ／4A 1030 Wien，Austria
C．：＋43－01－3－60－46－10
绊：＋43－13－6－04－61－0

## Future Electronics Austria GmbH

Scheringgasse 2，Wien，A－1140， Austria

C ：＋43－1－577－33－00
用：＋43－1－577－33－00－333

## Rutronik Elektronische Bauelemente Ges．m．b．H．

Durisolstraße 11， 4600 Wels，
Austria
C．：＋43－7242－4490－1
㳡：＋43－7242－4490－133

## ｜BELGIUM

## Arrow Electronics

Keiberg II，Minervastraat 14／B2
1930 Zaventem，Belgium
C ：＋32－27－25－46－60
绊：＋32－27－25－45－11

Visbeekstraat 11F， 2300 Turnhout， Belgium

## Future Electronics

Bedrijvencentrum Regio Aalst Industrielaan 4，Erembodegem－ Aalst，9320，Belgium
C．：＋32－53－85－09－40
翤：＋32－53－83－24－33

## Rutronik Belgium BVBA

Keppekouter 1，Ninovesteenweg 198， 9320 Erembodegem－Aalst， Belgium
C ：＋32－53－739－971
用：＋32－53－771－262

## ｜BULGARIA

## Arrow Electronics

Boulevard Dragan Tsankov 36， Office 329 B， 1040 Sofia，Bulgaria
C ：＋359－0－2－9712177

## Future Electronics

75 Andrey Lyapchev blvd．
Sofia，1729，Bulgaria
C．：＋359－2－974－5952
细：＋359－2－974－5968

## Rutronik Elektronische Bauelemente GmbH

Business centre＂Lozenetz＂fl．1， office 1B Blvd．Nikola Vaptzarov 35 1407 Sofia，Bulgaria
C ：＋35－92－974－86－46
悀：＋35－92－974－86－45
｜CZECH REPUBLIC

## Arrow Electronics

Hvezdova 1716／2b
14078 Praha 4－Nusle， Czech Republic
C：＋420－222－755－420
㷁：＋420－239－017－522

## Future Electronics

4th Floor，East Building
Antala Staska 510／38， 140 00， Prague 4，Czech Republic

C ：＋420－225－340－810
㶲 ：＋420－225－340－820

## RUTRONIK Elektronische

 Bauelemente CZ s．r．o．Pražákova 1008／69
63900 Brno，Czech Republic
C ：＋420－545－424－681
赂：＋420－545－424－670

Na Pankraci 1638／43
14000 Praha 4，Czech Republic
C ：＋420－233－343－120
周：＋420－233－323－955

TME Czech Republic s．r．o．
Slévárenská 406／17， 70900
Ostrava－Mar．Hory
C ：＋420－59－66－33－105
用：＋420－59－66－33－104

## ｜DENMARK

## Arrow Electronics

Marielundvej 29
2730 Herlev，Denmark
C ：＋45－70－10－22－11
倜：＋45－44－50－82－10

Tindbjergvej 18
DK－8600，Silkeborg，Denmark
C ：＋45－70－10－22－11
俻：＋45－87－24－66－60

## Future Electronics A／S

Skomagervej 13D，Vejle，DK－7100， Denmark
C ：＋45－764－08－764
周：＋45－764－08－765

## Rutronik Elektronische Bauelemente GmbH

Herstedøstervej 27－29， 2620
Albertslund Denmark
C ：＋45－7020－1963
俻：＋45－7020－1973

## ｜ESTONIA

## Arrow Electronics

Sopruse Puiestee 145
Section A，floor 5， 13417 Tallinn， Estonia
C ：＋372－6－77－42－50
用：＋372－6－77－42－51

## Future Electronics

OUAhtri 6，Tallinn，EE－10151， Estonia
C ：＋372－614－3201
俻：＋372－614－3203

## Rutronik Elektronische Bauelemente GmbH

Vaksali 17A， 50410 Tartu，Estonia C ：＋372－7－37－09－51

## FINLAND

## Arrow Electronics

Stella Business Park Lars Sonckin kaari 16，Fl－02600 Espoo，Finland C ：＋358－9－47－66－60

Kasarmintie 15，FI－90100 Oulu， Finland

C ：＋358－8－321－28－00

Veistamonaukio 1－3，3B5，
FI－20100 Turku，Finland
C ：＋358－9－476－660

Brahenkatu 13 A6， 20100 Turku， Finland

## Future Electronics Oy

Teknobulevardi 3－5，Vantaa FI－01530，Finland
C．：＋358－9－525－9950
谝：＋358－9－455－1050

## Rutronik Elektronische Bauelemente GmbH

Malminkaari 5， 00700 Helsinki， Finland

C ：＋358－9－3291－2200
描：＋358－9－3291－2222

## FRANCE

## PAN ELEKTRON S．R．L

Via P．F．Mola，39，I－20156 Milano
C ：＋39－2－3300－7446
昭：＋39－2－3300－6042

## Germany

## AL Elektronik Distribution GmBH

Christian－Pommer－Str． 36
D－38112 Braunschweig
C．：＋49－531－25－66－9－0
囲：＋49－531－25－66－9－29

## Arrow Electronics

Frankfurter Str． 211
63263 Neu－Isenburg，Germany
C ：＋49－6102－5030－0
㭘：＋49－6102－5030－8455

Kackertstr． 1052072 Aachen， Germany

C．：＋49－241－88－96－90
㭘 ：＋49－241－88－96－923

Spichernstrasse 2－3 10777 Berlin， Germany

> C: +49-30-75-79-90-0
> 用: $+49-30-75-79-90-77$

Meisenstraße 9233607 Bielefeld， Germany
C ：＋49－521－40－43－0
周：＋49－521－40－43－10－0

Friedrich－Seele－Str．3a
Braunschweig， 38122
C ：＋49－53－18－09－80
㷁：＋49－53－18－09－87－143

Hildebrandstraße 11
44319 Dortmund，Germany
C ：＋49－231－2－18－010
用：＋49－231－2－18－0167

Gustav－Weißkopf－Straße 3
99092 Erfurt，Germany
C ：＋49－361－78－93－50
俻：＋49－361－78－93－56－66

Am Gansacker 1079224 Umkirch， Germany

C ：＋49－7665－98－55－0
㭘：＋49－7665－98－55－98

Rodeweg 1837081 Göttingen， Germany
C．：＋49－551－90－40
用：＋49－551－90－44－648

Hugh－Greene－Weg 222529
Hamburg，Germany
C ：＋49－40－85－31－34－0
㷁：＋49－40－85－31－34－91

Zeppelinstraße 2
76185 Karlsruhe，Germany
C ：＋49－721－83－09－530
用：＋49－721－83－09－550

Hauptstrasse 10304416 Leipzig， Germany
C．：＋49－341－35－62－20
用：＋49－341－35－62－266

Michael－Haslbeck－Strasse 26 85640 Putzbrunn Munich， Germany

C ：＋49－89－456－18－0
周：＋49－89－456－18－399

Lina－Ammon－Straße 30 90471 Nürnberg，Germany
C ：＋49－911－521－56－0
用：＋49－911－521－56－35

Josef－Bayer－Straße 10
88250 Weingarten，Germany
C ：＋49－751－56－92－0
俻：＋49－751－56－92－100

Höpfigheimer Strasse 5 74321 Bietigheim－Bissingen Stuttgart，Germany
C．＋49－7142－70－03－0
周：＋49－7142－70－03－60

## Dema Electronic AG

Tuerkenstrasse 1180333
Muenchen，Germany
C ：＋49－0－89－2869－410
俻：＋49－0－89－283－509

## Future Electronics Deutschland GmbH

Sebrathweg 20， 1 st Floor， Dortmund，44149，Germany
C ：＋49－231－997619－0
缃：＋49－231－975－048－23

Sattlerstrasse 11，Isernhagen， 30916，Germany

C ：＋49－5136－80428－0
階 ：＋49－5136－80428－40

Augsburger Str．10，Erfurt， D－99091，Germany

C ：＋49－361－420－870
用：＋49－361－420－8760

Max－Planck－Straße 3，2nd Floor Aschheim－Dornach， 85609 Munich，Germany

C ：＋49－89－95727－0
唃：＋49－89－95727－173

Naussaustrasse．28，3rd
（Top Floor）Hofheim－Wallau， D－65719，Frankfurt，Germany
C ：＋49－6122－53429－0
㖮 ：＋49－6122－53429－55

Lingwiesenstrasse 11／1，
Korntal－Münchingen
D－70825，Sturttgart，Germany
C ：＋49－7150－9197－0
缃：＋49－7150－9197－183

Fangdieckstr．64，Hamburg，
D－22547，Germany
C ：＋49－40－547－277－0
唈：＋49－40－547－277－77

## Rutronik Elektronische Bauelemente GmbH

Industriestrasse 2，D－75228
Ispringen
C ：＋49－7231－801－0
缃：＋49－7231－822－82

Justus－von－Liebig－Straße 7， 12489 Berlin

C ：＋49－30－8092－716－0
哃：＋49－30－8092－716－16

Radeburger Straße 172，
01109 Dresden
C ：＋49－351－2053－30－0
缃：＋49－351－2053－30－10

Flughafenstraße 4， 99092 Erfurt
C ：＋49－361－2283－630
唃：＋49－361－2283－631

Frankfurter Straße 151c， 63303 Dreieich

C ：＋49－6103－2700－3－0
㭘：＋49－6103－2700－3－20

Basler Landstraße 8，
79111 Freiburg
C ：＋49－761－6116－77－0
㷁：＋49－761－6116－77－1

Brockweg 133， 33332 Gütersloh
C ：＋49－5241－2327－1－0
用：＋49－5241－2327－1－29

Neue Gröningerstraße 10， 20457 Hamburg
C ：＋49－40－3596－006－20
畠：＋49－40－3596－006－50

Rendsburger Straße 32， 30659 Hannover

C ：＋49－511－2285－07－0

Amselstraße 33， 68307 Mannheim
C ：＋49－621－7621－26－0
䚡：＋49－621－7621－26－17

Landsberger Straße 392，
81241 München
C ：＋49－89－8899－91－0
细：＋49－89－8899－91－19

Südwestpark 10／12， 90449 Nürnberg
C．：＋49－911－6886－8－0
细：＋49－911－6886－8－90

Gothaer Straße 2， 40880 Ratingen
C ：＋49－2102－9900－0
缃：＋49－2102－9900－19

## SCHUKAT ELECTRONIC VERTRIEBS GmbH

Daimlerstraße 26 D－40789
Monheim am Rhein
C ：＋49－2173－9505
缃：＋49－2173－9509－99

## TME Germany GmbH

Humboldtstrasse 2， 04105 Leipzig
C ：＋49－341－2120－340
组：＋49－341－2120－342－9

NORD DEUTSCHLAND
Piotr Paulus
C ：＋49－152－0570－416－6

SÜD DEUTSCHLAND
Steffen Riegel
C ：＋49－175－9339－397

SÜD－WEST DEUTSCHLAND
Peter Buchholz
C ：＋49－171－5646－253

## ｜HUNGARY

## Arrow Electronics

Váci út 140， 1138 Budapest， Hungary
C ：＋36－1288－7300
拥：＋36－1288－7301

## Future Electronics Kft．

Nagyszolos utca 11－15 BCW Irodahaz III．Emelet，Budapest． 1113

C ：＋36－1－224－0510
绝：＋36－1－224－0511

## Rutronik Magyarország Kft．

Alíz utca 1， 1117 Budapest， Hungary

C ：＋36－1231－3349
哃：＋36－1231－3333

## TME Hungary Kft．

Hermina út 17 ＂A＂ép．7．em．， 1146 Budapest
C ：＋36－1－220－67－56
俋：＋36－1－273－03－28

## ｜ISRAEL

## Arrow Electronics

Ram House，3rd Entrance，floor 5， 36 Hashacham Street Ramat Siv，P．O．Box 7240，Peteach Tikva 49250，Israel
C ：＋972－3－9203－456
缃：＋972－3－9203－443

## Future Electronics

2 Maskit St，Builiding D，Floor 6， Herzliya，46140，Tel－Aviv，Israel
C ：＋972－9970－1414
绊：＋972－9958－4333

## ZIONTRONICS LTD．Electronic

14 Raoul Wallenberg ST．Tel－Aviv 61131，Israel
C．：＋972－3－6498－642
细：＋972－3－6498－986

## ITALY

## PAN ELEKTRON S．R．L

Via P．F．Mola，39，I－20156 Milano
C ：＋39－2－3300－7446
细：＋39－2－3300－6042

## LITHUANIA

Rutronik Elektronische
Bauelemente GmbH
Raudondvario pl．76， 47182
Kaunas，Lithuania
C．：＋370－37－2617－80
哃：＋370－37－2103－63

## UAB Future Electronics

Jurbarko 2－302，Kaunas，LT－47183
C ：＋370－37－408－482
缃：＋370－37－265－478

## NETHERLANDS

## Arrow Electronics

Elzenkade 3， 3992 AD Houten， Netherlands
C ：＋31－030－63－91－23－8
编：＋31－030－63－91－20－5

## Future Electronics

Tinstraat no．3，Breda，Holland， 4823 AA，Netherlands

C．：＋31－765－444－888
㶲：＋31－765－444－880

## Rutronik Elektronische Bauelemente GmbH

Papland 4a， 4206 CL Gorinchem， Netherlands

C ：＋31－183－646－050
雷：＋31－183－646－051

## Transfer Multisort Elektronik

B．V．
Beemdstraat 1，5653MA
Eindhoven，Netherlands
C．：＋31－40－737－04－57
䐔：＋31－40－737－00－26

## ｜NORWAY

## Arrow Electronics

Stokkastrandvegen 87A
NO 5578 Nedre Vats，Norway
C．：＋47－5276－3000
用：＋47－5276－5339

Reidar Berges Gate 9，N－4013
Stavanger，Norway
C ：＋47－5276－3000
觛：＋47－2130－6550

## Future Electronics AB

Tevlingveien 23，Oslo，NO－1081， Norway
C．＋47－229－05800
㭘：＋47－229－05790

## Rutronik Elektronische Bauelemente GmbH

Olaf Helsets vei 6， 0694 Oslo Norway
C．＋47－22－767920
觛：＋47－22－767921

## ｜POLAND

## Arrow Electronics

ul．W．Rzymowskiego 53 02－697 Warszawa，Poland

C ：＋48－22－5588－282
俻：＋48－22－5588－283

Ligocka 103，40－568 Katowice， Poland

C．：＋48－22－488－70－00

## Future Electronics

Klopotowskiego 22，str．Warsaw， 03－717

C ：＋48－22－5907－202
用：＋48－22－5907－230

Waterside，Dlugie Ogrody Str．no 14 （2nd floor），Gdansk，80－765
C ：＋48－58－732－9760
倫：＋48－22－590－7230

## Rutronik Polska Sp．z o．o．

ul．Batorego 28－32，81－366 Gdynia， Poland

C ：＋48－58－7832－020
梱：＋48－58－7832－022
ul．Bojkowska 37，44－101 Gliwice， Poland

C ：＋48－32－4612－000
用：＋48－32－4612－001
ul．Broniewskiego 3，01－785
Warszawa，Poland
C ：＋48－22－4627－050
用：＋48－22－4627－055

## Transfer Multisort Elektronik

 sp．zo．0．ul．Ustronna 41，93－350 Łódź，
Poland Endereço postal：
90－951 Łódź 40，PO BOX 2071
C ：＋48－42－645－54－44
俻：＋48－42－645－54－70

## ｜PORTUGAL

## PAN ELEKTRON S．R．L

Via P．F．Mola，39，I－20156 Milano
C ：＋39－2－3300－7446
用：＋39－2－3300－6042

## ROMANIA

## Arrow Electronics

Cluj City Center
Calea Dorobantilor 14－16， 400117
Cluj－Napoca，Romania
C ：＋40－26－4417－251
周：＋40－26－4417－253

## Future Electronics

16 Eroilor Boulevard，Wing E，2nd Floor，Cluj－Napoca， 400129
C ：＋40－26－4457－774
鲖：＋40－26－4457－775

## Rutronik Elektronische <br> Bauelemente GmbH

Calea 13 Septembrie no．90，Floor
6，Room 6．20，Sector 5， 050726
Bucharest，Romania
C：＋40－21－3000－141
周：$+40-21-3000-143$

Strada Martin Luther 2，3rd floor， 300054 Timișoara，Romania

C ：＋40－25－6401－240
用：＋40－25－6401－242

## Transfer Multisort Elektronik s．r．I．

B－dul Regele Carol I，nr 36， Apartament 10， 300180 Timişoara，Romania
C ：＋40 356467 401～3
用：＋40－35－6467－400
｜RUSSIA

## Arrow Electronics

Mamonovsky Pereulok \＃6
Moskau 123001，Russia
C ：＋7－495－626－55－97
用：＋7－495－626－55－98

## Future Electronics

7 Dolgorukovskaya street，
Moscow， 127006

> C $:+7-967-1904-726$
> : $+1-514-6302-672$

## Rutronik <br> Beteiligungsgesellschaft mbH

Levoberezhnaya street 12 Hotel
＂Soyuz＂，office 316125445
Moscow Russia
C : +7-499-9633-184

## ｜SERBIA

## Rutronik Elektronische Bauelemente GmbH

Maglajska 24a，SRB－ 11000
Belgrade，Serbia
C ：＋381－11－3113－366
觶：＋381－11－3113－382

## ｜SLOVAKIA

## Arrow Electronics

Roznavska 24，Bratislava SK 82104， Slovakia

C．：＋421－232－604－300
细：＋421－262－604－311

## Rutronik Elektronische Bauelemente GmbH，o．z．

Lazovná 11， 97401 Banská Bystrica，Slovakia

C ：＋421－48－4722－3－00
缃：＋421－48－4722－3－08

TME Slovakia s．r．o．
Martina Rázusa 23A／8336，Žilina 01001
C ：＋421－415－002－047
煪：＋421－415－643－420

## ｜SLOVENIA

## Arrow Electronics

Ukmarjeva Ulica 2，Suite 1
Ljubljana 1000，Slovenia
C ：＋38－61－28－35－604
俻：＋38－61－28－35－605

## Rutronik Elektronische Bauelemente GmbH

Motnica 5， 1236 Trzin，Slovenia
C ：＋386－1－5610－9－80
俻：＋386－1－5610－9－88

## SPAIN

## PAN ELEKTRON S．R．L

Via P．F．Mola，39，I－20156 Milano
C ：＋39－2－330－07446
佣：＋39－2－330－06042

## SWEDEN

## Arrow Electronics

FO Petersons gata 3042131
Gothenburg SE，Sweden
C．：＋46－31－721－9800
熥：＋46－31－721－9850

Kronborgsgränd 1916446 Kista， Sweden

C．：＋46－85－626－5500
掄：＋46－85－626－5525

## Future Electronics AB

Kista Science Tower，Kista，SE－164 51，Stockholm

C ：＋46－86－248－800
噌 ：＋46－86－248－890

Flöjelbergsgatan 8 B，Mölndal，
SE－431 35，Gothenburg
C ：＋46－31－338－2730

## Rutronik Nordic AB

Kista Science Tower，Färögatan 33， 16451 Kista，Sweden
C ：＋46－85－055－4900
缃：＋46－85－055－4950

## SWITZERLAND

Riedmattstrasse 9
Zurich CH 8153 Rumlang， Switzerland

C ：＋41－44－81－76－262
俞：＋41－44－81－76－200

## Future Electronics

Grabenwisstrasse 1，Volketswil， CH－8604

C ：＋41－44－922－0022
用：＋41－44－922－0011

## Rutronik Elektronische

## Bauelemente AG

Brunnenstrasse 1， 8604 Volketswil Switzerland

C：＋41－44－947－3737
用：＋41－44－947－3747

Rue Galilée 15，
1400 Yverdon－les－Bains
Switzerland
C．：＋41－24－423－9140

## ｜TURKEY

## Arrow Electronics

Yeni Sk．VIP Plaza，No：5
Kat：1Kavacik，Beykoz 34810
Istanbul，Turkey
C．：＋90－216－680－4610
觕：＋90－216－680－4611

## Future Eletronics

Barbaros Mahallesi，Ardic Sokak
No：4 Varyap Meridian G Blok G2－11B－12－13，Atasehir，34746， Istanbul

C ：＋90－216－571－9700
觛：＋90－216－445－8704

## Ozdisan Elektronik Paz．San． Ve Tic．A．S

Des Sanayi Sitesi 104 Sokak A07
Blok No．02，Yukari Dudullu，
Umraniye，Istanbul，Turkey
C ：＋90－216－420－1882
赂：＋90－216－466－3682

## Rutronik Elektronische

 Bauelemente GmbHBarbaros Mahallesi，Ardic Sokak， Varyap Meridian G2 Blok，No．：09， 34746 Bati Atasehir，Istanbul

## Smh Semih Engineering Trading Ltd．

Hilmipasa Cad Parlar Apt．No． 35 Kat 6 D． 16 Tr－81090 Kzyatagi／ Istanbul
C ：＋91－216－463－2057

## UKRAINE

## Arrow Electronics

Garmatna str 21／30 Kiev 03067，Ukraine

C ：＋38－0－44－45－64－72－6
用：＋38－0－44－45－64－72－6

## Arrow Electronics

En Chamard 35
1442 Montagny p／Yverdon，
Switzerland
C ：＋41－24－447－01－00
俋：＋41－24－445－52－45

## ｜UNITED KINGDOM

## Arrow Electronics

Kao 1，Kao Park，Hockham way， Harlow Essex CM17 9NA， United Kingdom
C：＋44－1279－441144
昭：＋44－1279－455466

Unit 3A，Stephenson Court Priory Business Park，Bedford MW44 3WJ，United Kingdom
C ：＋44－1234－224050
䐔：＋44－1234－224051

5 New York Street，Part Ground
Floor Manchester M1 6EJ，
United Kingdom
C ：＋44－161－233－8500
倱：＋44－161－233－8501

1320 Waterside，Arlington
Business Park，Theale Reading
Berkshire RG7 4SA，United Kingdom
C ：＋44－118－963－3800
㖮：＋44－118－963－3801

## Future Eletronics

The Glanty Egham，Surrey TW20 9AH，London

C ：＋44－1784－275－000
哃：＋44－1784－275－600

5th Floor，Suite 5．1，Building 8， Exchange Quay，Salford，M5 3EJ， Manchester

C ：＋44－161－876－0000
用 ：＋44－161－877－1000

## FREEWAY Lighting Solutions

2100 First Avenue，Newbury
Business Park London Road， Newbury，Berkshire RG14 2PZ
C ：＋44－1635－555－979
用：＋44－1635－555－998

## Rutronik UK Ltd．

1－3 The Courtyard，Calvin Street， Bolton BL1 8PB
C ：＋44－1204－363－311
把：＋44－1204－367－550

Ormeau Business Park，Unit 25，
8 Cromac Avenue BT7 2JA Belfast
C ：＋44－2890－871－000
用：＋44－2890－871－001

## UNITED STATES <br> ｜ALABAMA

REP INC．
11535 GILLELAND ROAD
HUNTSVILLE，AL 35803
（CORPORATE OFFICE）
C ：＋1－256－881－9270
䐔：＋1－256－882－6692

## ARROW ELECTRONICS

HUNTSVILLE，AL 35805
C ：＋1－256－864－3350
㽗：＋1－256－864－3399

## AVNET，INC．

MADISON，AL 35758
C ：＋1－256－774－2600
唈：＋1－256－774－2624

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
佣：＋1－218－681－3380

## FUTURE ELECTRONICS

HUNTSVILLE，AL 35816
C ：＋1－205－971－2010
用：＋1－205－922－0004

MOUSER ELECTRONICS
MANSFIELD，TX 76063
C ：＋1－817－804－3888
㷁：＋1－817－804－3899

## ｜ARIZONA

## REPTRONIX LTD．

7353 E．6TH AVENUE SCOTTSDALE， AZ 85251
C：$+1-602-230-2630$
I囲：＋ $1-602-431-1087$

## ARROW ELECTRONICS

TEMPE，AZ 85282
C ：＋1－602－966－6600
觛：＋1－602－966－4826

## AVNET，INC．

PHOENIX，AZ 85034
C ：＋1－480－643－8778
旧：＋1－480－643－8768

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
倫：＋1－218－681－3380

## FUTURE ELECTRONICS

PHOENIX，AZ 85034
C ：＋1－800－950－7140
用：＋1－602－629－3041

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
䱚：＋1－817－804－3899

## ｜ARKANSAS

## RAM ELECTRONIC SALES

16901 NORTH DALLAS PARKWAY \＃210 ADDISON，TX 75001

C ：＋1－469－533－2610
用：＋1－469－533－2611

## ARROW ELECTRONICS

TULSA，OK 74146
C ：＋1－918－252－7537
用：＋1－918－254－1687

## AVNET，INC．

TULSA，OK 74146
C ：＋1－918－459－6000
用：＋1－918－459－6060

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
用：＋1－218－681－3380

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
煪：＋1－817－804－3899

## CALIFORNIA （NORTH）

## EWING－FOLEY，INC

 （CUPERTINO，CA）10061 BUBB ROAD，SUITE 100 CUPERTINO，CA 95014
C．：＋1－408－342－1200
畔：＋1－408－342－1201

## EWING－FOLEY，INC

 （SACRAMENTO，CA）13620 LINCOLN WAY，SUITE 100
AUBURN，CA 95603
C ：＋1－530－885－6591
谓：＋1－530－885－6594

## ARROW ELECTRONICS

ROSEVILLE，CA 95661
C ：＋1－916－797－3200
悀：＋1－916－772－4220

## ARROW ELECTRONICS

SANTA CLARA，CA 95051
C ：＋1－408－727－2500
㷁：＋1－408－727－5896

## AVNET，INC．

MILPITAS，CA 95035
C ：＋1－408－435－3500
渞：＋1－800－257－0568

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
䌿：＋1－218－681－3380

## FUTURE ELECTRONICS

RENO，NV 89502
C．：＋1－775－826－2500
㷁：＋1－775－826－2664

## FUTURE ELECTRONICS

ROSEVILLE，CA 95661
C ：＋1－916－783－7877
㷁：＋1－916－783－7988

## FUTURE ELECTRONICS

SAN JOSE，CA 95131
C ：＋1－408－434－1122
倫：＋1－408－262－0741

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
俋：＋1－817－804－3899

## CALIFORNIA （SOUTH）

## WEST ELECTRONIC SALES

959 SOUTH COAST DRIVE，SUITE \＃400 COSTA MESA，CA 92626
C ：＋1－714－689－8550
误：＋1－714－689－8551

## WEST ELECTRONIC SALES

5355 AVENIDA ENCINAS，STE 207
CARLSBAD，CA 92008
C．：＋1－760－929－1615
缃：＋1－760－929－1619

## ARROW ELECTRONICS

WOODLAND HILLS，CA 91367
C：＋1－818－932－1000
凅：＋1－818－932－1020

## ARROW ELECTRONICS

FOOTHILL RANCH，CA 92610
C ：＋1－949－380－4700
倫：＋1－949－380－2801

## ARROW ELECTRONICS

SAN DIEGO，CA 92131
C ：＋1－858－536－7600
㖮：＋1－858－536－7690

## AVNET ELECTRONICS

IRVINE，CA 92602
C ：＋1－949－789－4100

## AVNET ELECTRONICS

SAN DIEGO，CA 92128
C ：＋1－858－385－7500
缃：＋1－858－385－7640

## AVNET ELECTRONICS

WOODLAND HILLS，CA 91367
C．：＋1－818－594－8200
觛：＋1－818－594－8233

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－800－344－4536
㴜：＋1－218－681－3380

## EDGE ELECTRONICS

HUNTINGTON BEACH，CA 92648
C ：＋1－949－752－0553
㶲：＋1－949－752－0551

## EDGE ELECTRONICS

THOUSAND OAKS，CA 91320
C ：＋1－805－443－1967
䐔：＋1－631－471－3405

## FUTURE ELECTRONIC

IRVINE，CA 92122
C．：＋1－949－453－1515
䐔：＋1－949－453－1226

## FUTURE ELECTRONIC

SAN DIEGO，CA 92122
C ：＋1－858－625－2800
䚡：＋1－858－625－2810

## MOUSER ELECTRONICS

EL CAJON，CA 92020
C ：＋1－619－449－2222
细：＋1－619－449－6041

## ｜COLORADO

## ENGLISH DAMCO SALES

3000 S．JAMAICA COURT SUITE 370 AURORA，CO 80014
C．：＋303－695－0706
㽖：＋303－695－0827

## ARROW ELECTRONICS

ENGLEWOOD，CO 80112
C ：＋1－303－600－1200
倫：＋1－303－600－1203

## AVNET，INC．

ENGLEWOOD，CO 80111
C．：＋1－303－790－1662
渵：＋1－303－790－4991

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
细：＋1－218－681－3380

## FUTURE ELECTRONICS

GOLDEN，CO 80401
C．：＋1－303－277－0223
用：＋1－303－277－0722

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C：＋1－817－804－3888
用：＋1－817－804－3899

## ｜COLORADO

## ARROW ELECTRONICS

ENGLEWOOD，CO 80112
C ：＋1－303－600－1200
㷁：＋1－303－600－1203

## AVNET，INC．

ENGLEWOOD，CO 80111
C ：＋1－303－790－1662
俻：＋1－303－790－4991

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
㷁：＋1－218－681－3380

## FUTURE ELECTRONICS

GOLDEN，CO 80401
C ：＋1－303－277－0223
用：＋1－303－277－0722

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
用：＋1－817－804－3899

## ｜CONNECTICUT

## A／D SALES INC．

1500 DISTRICT AVENUE，1ST \＆ 2ND FLOORS BURLINGTON， MA 01803

C ：＋$+1-978-851-5400$
毕：＋1－978－851－5555

## ARROW ELECTRONICS

WALLINGFORD，CT 06492
C ：＋1－203－265－7741
用：＋1－203－265－7988

## AVNET，INC．

WALLINGFORD，CT 06492
C ：＋1－203－284－5700
㷁：＋1－203－284－5757

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
䚡：＋1－218－681－3380

## FUTURE ELECTRONICS

CHESHIRE，CT 06410
C ：＋1－203－250－0083
䌿：＋1－203－250－0081

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
倫：＋1－817－804－3899

## ｜DELAWARE

ASTRO REP MID ATLANTIC， INC．

1756 FOXWOOD DRIVE JAMISON， PA 18929

C．$+1-215-284-1539$
：$+1-215-343-2052$

## ARROW ELECTRONICS

COLUMBIA，MD 21046

$$
\begin{aligned}
& \text { C: }:+1-410-309-0686 \\
& \text { 䧃: +1-410-309-0699 }
\end{aligned}
$$

## AVNET，INC．

COLUMBIA，MD 21046

> C: + $+1-410-423-8800$
> 㽗: $+1-410-423-8860$

## DIGI－KEY

THIEF RIVER FALLS，MN 56701

> C : + + $1-218-681-6674$
> 㖮 : + $+218-681-3380$

## FUTURE ELECTRONICS

LINTHICUM，MD 20701

> : +1-410-314-1111
> : +1-410-314-1110

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
俻：＋1－817－804－3899

## ｜FLORIDA

REP INC．
213 MONTARA SEFFNER，FL 33584
C．：＋1－813－597－7957
倫：＋1－256－882－6692

## REP INC．

1631 NE 7 PLACE FORT
LAUDERDALE，FL 33304
C．：＋1－954－347－2519
幈：＋1－256－882－6692

## ARROW ELECTRONICS

DEERFIELD BEACH，FL33441
C ：＋1－954－429－8200
挶：＋1－954－428－3991

## ARROW ELECTRONICS

LAKE MARY，FL 32746
C ：＋1－407－339－0078
俻：＋1－407－339－0139

## AVNET，INC．

CLEARWATER，FL 33760
C ：＋1－727－507－5000
㷁：＋1－727－507－5050

## AVNET，INC．

FT LAUDERDALE，FL 33309
C：＋1－954－484－5482
㷁：＋1－954－484－2995

## AVNET，INC．

WINTER PARK，FL 32792
C ：＋1－407－657－3300
㷁：＋1－407－678－4414

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
唈：＋1－218－681－3380

## EDGE ELECTRONICS

OCALA，FL 34470
C ：＋1－352－484－1650
用：＋1－352－484－1754

## EDGE ELECTRONICS

VENICE，FL 34285
C．：＋1－941－244－0984
昭：＋1－941－244－0988

## FUTURE ELECTRONICS

CLEARWATER，FL 33760
C ：＋1－727－531－3062
䀫：＋1－727－535－5871

## FUTURE ELECTRONICS

DEERFIELD BEACH，FL 33442
C ：＋1－954－428－9494
翤 ：＋1－954－428－9477

## FUTURE ELECTRONICS

LAKE MARY，FL 32746
C ：＋1－407－865－9555
昭：＋1－407－865－5969

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
细：＋1－817－804－3899

## ｜GEORGIA

REP INC．
6825 JIMMY CARTER BLDV BUILDING 1300，SUITE 1302 NORCROSS，GA 30071
C ：＋1－770－662－8982
倫：＋1－770－662－0345

## ARROW ELECTRONICS

DULUTH，GA 30096
C ：＋1－770－497－1300
俋：＋1－770－476－1493

## AVNET，INC．

DULUTH，GA 30096
C ：＋1－770－623－4400
觛：＋1－770－476－8806

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
哃：＋1－218－681－3380

## FUTURE ELECTRONICS

DULUTH，GA 30096
C ：＋1－770－476－3900
洞：＋1－770－476－8662

MOUSER ELECTRONICS
MANSFIELD，TX 76063
C ：＋1－817－804－3888
桷：＋1－817－804－3899

## ｜IDAHO（NORTH）

## ARROW ELECTRONICS

BELLEVUE，WA 98007－6462
C ：＋1－425－643－9992
唈：＋1－425－643－9709

## AVNET，INC．

REDMOND，WA 98052
C ：＋1－425－882－7000
缃：＋1－425－882－7070

## DIGI－KEY

THIEF RIVER FALLS，MN 56701

## C ：＋1－218－681－6674 <br> MOUSER ELECTRONICS

喔：＋1－218－681－3380

## FUTURE ELECTRONICS

BOTHELL，WA 98021
C ：＋1－425－485－6616
㭘：＋1－425－483－6109

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㭘：＋1－817－804－3899

## ｜IDAHO（SOUTH）

## ENGLISH DAMCO SALES

753 W．POTOMAC DR．MURRAY， UT 84123
C．：＋1－801－281－8626
涌：＋1－801－281－8628

## ARROW ELECTRONICS

SALT LAKE CITY，UT 84119
C ：＋1－801－973－8555
用：＋1－801－973－8909

## AVNET，INC．

SALT LAKE CITY，UT 84121
C ：＋1－801－365－3800
I用：＋1－801－365－3821

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
绍：＋1－218－681－3380

## FUTURE ELECTRONICS

SALT LAKE CITY，UT 84106
C ：＋1－801－467－4448
侷：＋1－801－467－3604

MANSFIELD，TX 76063

C ：＋1－817－804－3888
倫：＋1－817－804－3899

## ｜ILLINOIS

## SUMER INC．

1675 HICKS ROAD ROLLING MEADOWS，IL 60008

C ：＋1－847－991－8500
编：＋1－847－991－0474

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112

C ：＋1－651－429－2544
圆：＋1－651－429－3104
＊Zip Codes 612xx thru 629xx

## ARROW ELECTRONICS

ITASCA，IL 60143
C ：＋1－630－250－0500
用：＋1－630－250－0916

AVNET，INC．
HOFFMAN ESTATES，IL 60195
C．：＋1－847－396－7300
昭：＋1－847－396－7323

## EDGE ELECTRONICS

CHICAGO，IL
C ：＋1－805－458－1971
细：＋1－631－471－3405

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
俻：＋1－218－681－3380

## FUTURE ELECTRONICS

HOFFMAN ESTATES，IL 60195
C ：＋1－847－273－0067
㷁：＋1－847－490－9576

## ｜INDIANA

## ELECTRO REPS

220 N．RANGELINE ROAD CARMEL， INDIANA 46032
C．：＋1－317－569－7202
幈：＋1－317－569－7203

## ELECTRO REPS

10111 NORTH 200 EAST
ROANOKE，IN 46783
C ：＋1－260－403－5482
用：＋1－317－569－7203

## ARROW ELECTRONICS

FORT WAYNE，IN 46825
C ：＋1－260－490－2323
䧃：＋1－260－497－8235

## ARROW ELECTRONICS

INDIANAPOLIS，IN 46250
C ：＋1－317－913－1100
哃：＋1－317－570－1344

## AVNET，INC．

CARMEL，IN 46032
C．：＋1－317－575－3500
挶：＋1－317－575－3535

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
挶：＋1－218－681－3380

## FUTURE ELECTRONICS

INDIANAPOLIS，IN 46250
C．：＋1－317－913－1355
细：＋1－317－913－1375

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
相：＋1－817－804－3899

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㭘：＋1－817－804－3899

## ｜IOWA

JOHNSON COMPANY
1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112
C．：＋1－651－429－2544
幈：＋1－651－429－3104

## ARROW ELECTRONICS

EDEN PRARIE，MN 55344
C．：＋1－952－828－5350
㷁：＋1－952－828－5399

## AVNET，INC．

CEDAR RAPIDS，IA 52402
C．：＋1－319－393－0303
倫：＋1－319－393－7050

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
㖮：＋1－218－681－3380

## FUTURE ELECTRONICS

CEDAR RAPIDS，IA 52402
C ：＋1－319－447－0822
用：＋1－319－447－9819

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
挶：＋1－817－804－3899

## KANSAS

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 NW，SUITE 110 NEW BRIGHTON，MN 55112
C．：＋1－651－429－2544
谝：＋1－651－429－3104

AVNET，INC．
OVERLAND PARK，KANSAS 66210
C ：＋1－913－663－7900
唃：＋1－913－663－7979

## ｜KENTUCKY

## ELECTRO REPS

55 PINEHURST PLACE SPRINGBORO，OH 45066
C ：＋1－937－974－5475
拥：＋1－317－569－7203

## AVNET，INC．

COLUMBIA，MD 21046
C ：＋1－480－643－8389
缃：＋1－480－643－8768

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
细：＋1－218－681－3380

## MOUSER ELECTRONICS

BUDD LAKE，NJ 07828
C．：＋1－973－448－0050
倫：＋1－973－448－3753

## ｜LOUISIANA

## RAM ELECTRONIC SALES－ HOUSTON

5102 TARNBROOK DRIVE HOUSTON，TX 77084

C ：＋1－713－305－3654

## AVNET，INC．

RICHARDSON，TEXAS 75082
C ：＋1－800－231－0253
昭：＋1－214－553－4395

## AVNET，INC．

SUGARLAND，TEXAS 77478
C：$+1-281-243-7330$
I目：＋1－281－243－7140

## ｜MAINE

## A／D SALES INC．

1500 DISTRICT AVENUE，1ST \＆ 2ND FLOORS BURLINGTON， MA 01803

C．：＋1－978－851－5400
畘：＋1－978－851－5555

## ARROW ELECTRONICS

WILMINGTON，MA 01887

> C: $+1-800-444-0050$
> 凅: 1 + $978-694-6671$

## AVNET，INC．

PEABODY，MA 01960
C ：＋1－800－665－2895
煪：＋1－800－447－0602

DIGI－KEY
THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
缃：＋1－218－681－3380

## EDGE ELECTRONICS

WOBURN，MA 01801
C ：＋1－781－376－1551
煪：＋1－781－376－0104

FUTURE ELECTRONICS
BOLTON，MA 01740
C ：＋1－978－779－3000
唃：＋1－978－779－3050

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
唈：＋1－817－804－3899

## ｜MARYLAND

PINNACLE TECHNOLOGY SALES

1021 MILLCREEK DRIVE \＃5
FEASTERVILLE，PA 19053
C ：＋1－215－322－8370

## ARROW ELECTRONICS

COLUMBIA，MD 21046
C ：＋1－410－309－0686
幈：＋1－410－309－0699

AVNET，INC．
COLUMBIA，MD 21046
C ：＋1－410－423－8800
谝：＋1－410－423－8860

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
㒺：＋1－218－681－3380

## FUTURE ELECTRONICS

LINTHICUM，MD 20701
C．：＋1－410－314－1111
细：＋1－410－314－1110

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
圆：＋1－817－804－3899

## MASSACHUSETTS

## A／D SALES INC．

1500 DISTRICT AVENUE，1ST \＆ 2ND FLOORS BURLINGTON， MA 01803

C ：＋1－978－851－5400
唈：＋1－978－851－5555

## ARROW ELECTRONICS

WILMINGTON，MA 01887
C ：＋1－800－444－0050
㥜：＋1－978－694－6671

## AVNET，INC．

PEABODY，MA 01960
C ：＋1－800－665－2895
用：＋1－800－447－0602

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
唈：＋1－218－681－3380

## EDGE ELECTRONICS

WOBURN，MA 01801
C ：＋1－781－376－1551
觛：＋1－781－376－0104

## FUTURE ELECTRONICS

BOLTON，MA 01740
C ：＋1－978－779－3000
细：＋1－978－779－3050

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
细：＋1－817－804－3899

## ｜MICHIGAN

## SAND DRIVE SALES

5301 SAND DRIVE WEST OLIVE， MI 49460
C．：＋1－616－399－2362
＋1－616－405－3322（CELL）

## ARROW ELECTRONICS

PLYMOUTH，MI 48170
C ：＋1－734－455－0850
细：＋1－734－455－6656

## AVNET，INC．

PLYMOUTH，MI 48170
C ：＋1－734－416－5800
鿬 ：＋1－734－416－4106

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
用：＋1－218－681－3380

## FUTURE ELECTRONICS

FARMINGTON HILLS，MI 48331
C．：＋1－248－489－1179
陯：＋1－248－489－1030

## FUTURE ELECTRONICS

GRAND RAPIDS，MI 49512
C ：＋1－616－698－6800
挶：＋1－616－698－2155

MOUSER ELECTRONICS
MANSFIELD，TX 76063
C ：＋1－817－804－3888
细：＋1－817－804－3899

## MINNESOTA

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112

C：＋1－651－429－2544
圆：$+1-651-429-3104$

## ARROW ELECTRONICS

EDEN PRARIE，MN 55344
C ：＋1－952－828－5350
倫：＋1－952－828－5399

## AVNET，INC．

BLOOMINGTON，MN 55431
C．：＋1－952－346－3000
㭘：＋1－952－881－9461

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
倫：＋1－218－681－3380

## FUTURE ELECTRONICS

CHANHASSEN，MN 55317
C ：＋1－952－934－9100
階：＋1－952－934－6700

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㷁：＋1－817－804－3899

## ｜MISSISSIPPI

## REP INC．

11535 GILLELAND ROAD
HUNTSVILLE，AL 35803
（CORPORATE OFFICE）
C．：＋1－256－881－9270
倫：＋1－256－882－6692

## ARROW ELECTRONICS

HUNTSVILLE，AL 35805
C ：＋1－256－864－3300
倫：＋1－256－864－3349

## AVNET，INC．

MADISON，AL 35758
C．：＋1－256－774－2600
眻：＋1－256－774－2624

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
昭：＋1－218－681－3380

## FUTURE ELECTRONICS

HUNTSVILLE，AL 35805
C．：＋1－256－532－2200
周：＋1－256－532－2210

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
眮：＋1－817－804－3899

## ｜MISSOURI

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 NW，SUITE 110 NEW BRIGHTON，MN 55112
C ：＋1－651－429－2544
拥：＋1－651－429－3104

## AVNET，INC

EARTH CITY，MO 63045
C ：＋1－314－770－6300
䚡：＋1－314－770－6363

## ｜MONTANA

## ENGLISH DAMCO SALES

753 W．POTOMAC DR．MURRAY， UT 84123

C ：＋1－801－281－8626
相：＋1－801－281－8628

## ARROW ELECTRONICS

SALT LAKE CITY，UT 84119
C ：＋1－801－973－8555
唃：＋1－801－973－8909

## AVNET，INC．

SALT LAKE CITY，UT 84121
C ：＋1－801－365－3800
崅：＋1－801－365－3821

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
倫：＋1－218－681－3380

## FUTURE ELECTRONICS

SALT LAKE CITY，UT 84106
C ：＋1－801－467－4448
倫：＋1－801－467－3604

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
摒：＋1－817－804－3899

## ｜NEBRASKA

JOHNSON COMPANY
1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112
C．：＋1－651－429－2544
挶：＋1－651－429－3104

## AVNET，INC

OVERLAND PARK，KANSAS 66210
C：$:+1-913-663-7900$
目：＋1－913－663－7979
｜NEVADA（NORTH）

EWING－FOLEY，INC （SACRAMENTO，CA）
13620 LINCOLN WAY，SUITE 100
AUBURN，CA 95603
C．：＋1－530－885－6591
圆：＋1－530－885－6594

## ARROW ELECTRONICS

ROSEVILLE，CA 95661
C ：＋1－916－797－3200
翤：＋1－916－772－4220

## AVNET，INC．

ROSEVILLE，CA 95678
C．：＋1－916－724－2104
㭘：＋1－916－724－2110

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
佣：＋1－218－681－3380

## FUTURE ELECTRONICS

RENO，NV 89502
C ：＋1－916－783－7877
倫：＋1－916－783－7988

## MOUSER ELECTRONICS

BUDD LAKE，NJ 07828
C ：＋1－973－448－0050
倫：＋1－973－448－3753

## ｜NEVADA（SOUTH）

## REPTRONIX LTD．

7353 E．6TH AVENUE SCOTTSDALE， AZ 85251
C．：＋1－602－230－2630
用：＋1－602－431－1087

## ARROW ELECTRONICS

TEMPE，AZ 85281
C．：＋1－602－966－6600
细：＋1－602－966－4826

## AVNET，INC

PHOENIX，AZ 85034
C ：＋1－480－643－2000
俻：＋1－800－257－0568

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
昭：＋1－218－681－3380

## FUTURE ELECTRONICS

RENO，NV 89502
C．：＋1－775－826－2500
昭：＋1－775－826－2664

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
拥：＋1－817－804－3899

## ｜NEW HAMPSHIRE

A／D SALES INC．
1500 DISTRICT AVENUE， 1 ST \＆ 2ND FLOORS
BURLINGTON，MA 01803
C ：＋1－978－851－5400
I翤：＋1－978－851－5555

## ARROW ELECTRONICS

WILMINGTON，MA 01887－1018
C ：＋1－978－658－7920
细：＋1－978－661－6595

## AVNET，INC．

PEABODY，MA 01960
C ：＋1－800－665－2895
昭：＋1－800－447－0602

## BREVAN ELECTRONICS

MERRIMACK，NH 03054
C．：＋1－603－429－1900
䚡：＋1－603－429－1001

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
凅：＋1－218－681－3380

## EDGE ELECTRONICS

AMHERST，NH 03031
C ：＋1－603－672－9761
昭：＋1－603－672－4762

MOUSER ELECTRONICS
MANSFIELD，TX 76063
C ：＋1－817－804－3888
细：＋1－817－804－3899

## NEW JERSEY <br> （LOWER）

## ASTRO REP MID ATLANTIC，

 INC．1756 FOXWOOD DRIVE JAMISON， PA 18929

C ：＋1－215－284－1539
描：＋1－215－343－2052

## AVNET，INC．

MT．LAUREL，NJ 08054
C ：＋1－800－526－4812
㷁：＋1－856－222－6464

## DIGI－KEY

THIEF RIVER FALLS，MN 56701


## EDGE ELECTRONICS

FLANDERS，NJ 07836

> C: $:+1-732-239-8006$
> 㽗: $+1-631-237-4203$

## EDGE ELECTRONICS

HEWITT，NJ 07421

> C: + $+1-973-632-6932$
> 唃 : +1-631-237-4203

## FUTURE ELECTRONICS

MT．LAUREL，NJ 08054
C ：＋1－856－787－9601
续：＋1－856－787－9616

## MOUSER ELECTRONICS

BUDD LAKE，NJ 07828
C ：＋1－973－448－0050
佣：＋1－973－448－3753

## ｜NEW JERSEY（UPPER）

ERA INC．
101 EISENHOWER PARKWAY，SUITE 300 ROSELAND，NJ 07068
C．：＋1－973－794－6600
限：＋1－973－794－6599

## ARROW ELECTRONICS

PINEBROOK，NJ 07058
C ：＋1－973－882－8358
階：＋1－973－882－9109

## AVNET，INC．

PARSIPPANY，NJ 07054
C．：＋1－973－515－1641
偋：＋1－973－515－1600

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
偋：＋1－218－681－3380

## EDGE ELECTRONICS

HEWITT，NJ 07421
C ：＋1－973－632－6932
倫：＋1－631－471－3405

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
焗：＋1－817－804－3899

## ｜NEW MEXICO

## REPTRONIX

237－C EUBANK BLVD．，N．E． ALBUQUERQUE，NM 87123
C．：＋1－505－292－1718
喵：＋1－505－299－1611

## ARROW ELECTRONICS

ALBUQUERQUE，NM 87112
C ：＋1－505－480－6212
倫：＋1－505－480－6212

## AVNET，INC．

ALBUQUERQUE，NM 87113
C ：＋1－505－293－5119
眮：＋1－505－934－0146

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
煪：＋1－218－681－3380

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
眮：＋1－817－804－3899

## ｜NEW YORK（LOWER）

## ERA INC．

101 EISENHOWER PARKWAY，SUITE 300 ROSELAND，NJ 07068

## C ：＋1－973－794－6600

哃：＋1－973－794－6599

## ARROW ELECTRONICS

WHIPPANY，NJ 07981－1027
C．：＋1－973－265－3820
昭：＋1－973－265－3825

## AVNET，INC．

MT．LAUREL，NJ 08054
C ：＋1－800－526－4812
唈：＋1－856－222－6464

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
细：＋1－218－681－3380

## EDGE ELECTRONICS

BOHEMIA，NY 11716
C ：＋1－800－647－3343
喵：＋1－631－471－3405

## FUTURE ELECTRONICS

HAUPPAUGE，NY 11788
C ：＋1－631－348－4000
诵：＋1－631－234－6183

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C．：＋1－817－804－3888
诵：＋1－817－804－3899

## NEW YORK

（UPSTATE）

## HARMON \＆SULLIVAN

 ASSOCIATES，IN1490 CHILI AVE．ROCHESTER， NY 14624
C．：＋1－585－235－3090
缃：＋1－585－464－8191

## ARROW ELECTRONICS

ROCHESTER，NY 14623
C ：＋1－800－462－6422
佣：＋1－585－427－0735

## ARROW ELECTRONICS

SYRACUSE，NY 13214
C ：＋1－315－233－5600
㴜：＋1－315－449－9038

## ARROW ELECTRONICS

VESTAL，NY 13850
C．：＋1－800－678－0010
昵：＋1－607－785－5546

## AVNET，INC

ROCHESTER，NY 14623
C ：＋1－585－486－8300
偋：＋1－585－486－8350

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
㽗：＋1－218－681－3380

## FUTURE ELECTRONICS

ROCHESTER，NY 14625
C ：＋1－585－387－9550
倫：＋1－585－387－9563

## FUTURE ELECTRONICS

SYRACUSE，NY 13212
C ：＋1－315－451－2371
㷁：＋1－315－451－7258

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
焗：＋1－817－804－3899

## ｜NORTH CAROLINA

## REP INC．

303 WOOD STREET THOMASVILLE， NC 27360
C．：＋1－919－908－6344
挶：＋1－256－881－6692

## ARROW ELECTRONICS

RALEIGH，NC 27609
C ：＋1－919－876－3132
用：＋1－919－878－9517

## AVNET，INC．

RALEIGH，NC 27606
C．：＋1－919－859－9159
䚡：＋1－919－859－3225

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
昭：＋1－218－681－3380

## FUTURE ELECTRONICS

RALEIGH，NC 27616
C ：＋1－919－571－9942
俋：＋1－919－571－0928

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
揊：＋1－817－804－3899

## ｜NORTH DAKODA

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112
C．：＋1－651－429－2544
绊：＋1－651－429－3104

## arrow electronics

EDEN PRAIRIE，MN 55344
C ：＋1－952－828－5300
眮：＋1－952－828－5415

## AVNET，INC．

BLOOMINGTON，MN 55431
C ：＋1－952－346－3000
㲋：＋1－952－881－9461

## DIGI－KEY

THIEF RIVER FALLS， MN 56701－0677
C ：＋1－218－681－6674
缃：＋1－218－681－3380

## FUTURE ELECTRONICS

CHANHASSEN，MN 55317
C ：＋1－952－934－9100
塀：＋1－952－934－6700

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
崅：＋1－817－804－3899

## ｜OHIO

ELECTRO REPS
3458 TIMBERWOOD TRAIL RICHFIELD，OH 44286

C ：＋1－330－659－9200
谝：＋1－317－569－7203

ELECTRO REPS，INC．
20799 NORTHWOOD AVE FAIRVIEW PARK，OH 44126

C ：＋1－440－292－6165
圆：＋1－317－569－7203

ELECTRO REPS，INC．
55 PINEHURST PLACE SPRINGBORO，OH 45066

C ：＋1－937－974－5475
拥：＋1－317－569－7203

## ARROW ELECTRONICS

DAYTON，OH 45458
C．：＋1－937－428－7319
哃：＋1－937－428－7345

## ARROW ELECTRONICS

SOLON，OH 44139
C ：＋1－440－519－7422
㷁：＋1－440－248－5490

## AVNET，INC．

SOLON，OH 44139
C ：＋1－440－349－7600
倫：＋1－440－248－4803

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
倫：＋1－218－681－3380

## EDGE ELECTRONICS

DAYTON，OH 45458
C ：＋1－352－484－1650
倫：＋1－631－471－3405

## FUTURE ELECTRONICS

BEAVERCREEK，OH 45430
C ：＋1－937－426－6090
㭘：＋1－937－426－8490

## FUTURE ELECTRONICS

SOLON，OH 44139
C．：＋800－515－0090
缃：＋937－426－8490

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㷁：＋1－817－804－3899

## ｜OKLAHOMA

## RAM ELECTRONIC SALES

16901 NORTH DALLAS PARKWAY \＃210 ADDISON，TX 75001
C．：＋1－469－533－2610
缃：＋1－469－533－2611

## ARROW ELECTRONICS

TULSA，OK 74146
C ：＋1－918－252－7537
㽗：＋1－918－254－1687

## AVNET，INC．

TULSA，OK 74146
C ：＋1－918－459－6000
倫：＋1－918－459－6060

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
艳：＋1－218－681－3380

## FUTURE ELECTRONICS

TULSA，OK 74136
C ：＋1－918－492－1500
唈：＋1－918－492－4848

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
疐：＋1－817－804－3899

## ｜OREGON

## ARROW ELECTRONICS

BEAVERTON，OR 97005
C ：＋1－503－629－8090
缃：＋1－503－645－0611

## AVNET，INC．

PORTLAND，OR 97223
C．：＋1－503－452－6900


## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
哃：＋1－218－681－3380

## EDGE ELECTRONICS

PORTLAND，OR 97223
C ：＋1－503－789－4912
䐌：＋1－631－471－3405

## FUTURE ELECTRONICS

PORTLAND，OR 97224
C ：＋1－503－603－0956
细：＋1－503－603－0859

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
描：＋1－817－804－3899

## PENNSYLVANIA （EASTERN）

## ASTRO REP MID ATLANTIC，

 INC．1756 FOXWOOD DRIVE JAMISON， PA 18929
C．：＋1－215－284－1539
用：＋1－215－343－2052

## ARROW ELECTRONICS

HORSHAM，PA 19044

> C : +1-215-443-5150

䌿：＋1－215－672－2919

## AVNET，INC

MT．LAUREL，NJ 08054
C ：＋1－856－222－6400
㷁：＋1－856－222－6464

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
㫻：＋1－218－681－3380

## FUTURE ELECTRONICS

MT．LAUREL，PA 19044
C．：＋1－800－285－8873
倫：＋1－856－787－9616

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
偋：＋1－817－804－3899

## PENNSYLVANIA （WEST）

ELECTRO REPS，INC．
399 WAGON WHEEL TRAIL WEXFORD，PA 15090
C ：＋1－724－612－7392
俻：＋1－317－569－7203

## ARROW ELECTRONICS

PITTSBURGH，PA 15239
C ：＋1－724－327－1130
㞒：＋1－724－327－4181

## AVNET，INC

MT．LAUREL，NJ 08054
C ：＋1－856－222－6400
周：＋1－856－222－6464

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
䚡：＋1－218－681－3380

## FUTURE ELECTRONICS

WEXFORD，PA 15090
C ：＋1－888－214－4101
㷁：＋1－724－935－1188

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
倫：＋1－817－804－3899

## ｜RHODE ISLAND

A／D SALES INC．
1500 DISTRICT AVENUE，1ST \＆ 2ND FLOORS BURLINGTON， MA 01803

C ：＋1－978－851－5400
䁌：＋1－978－851－5555

## ARROW ELECTRONICS

WILMINGTON，MA 01887

$$
\begin{aligned}
& \text { C: }+1-978-658-7920 \\
& \text { 甬: }+1-978-661-6595
\end{aligned}
$$

## AVNET，INC．

PEABODY，MA 01960
C ：＋1－800－665－2895
用：＋1－800－447－0602

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
昭：＋1－218－681－3380

## FUTURE ELECTRONICS

BOSTON，MA 01740
C ：＋1－978－779－3111
䚪：＋1－978－779－3199

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㽗：＋1－817－804－3899

## ｜SOUTH CAROLINA

## REP INC．

222 SOUTH BOULEVARD
ANDERSON，SC 29621
C．：＋1－704－905－7846
细：＋1－864－222－8283

## ARROW ELECTRONICS

RALEIGH，NC 27609
C ：＋1－919－876－3132
细：＋1－919－878－9517

## AVNET，INC．

RALEIGH，NC 27606
C ：＋1－919－859－9159
桷：＋1－919－859－3225

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C．：＋1－218－681－6674
昭：＋1－218－681－3380

## FUTURE ELECTRONICS

RALEIGH，NC 27616
C ：＋1－919－571－9942
唃：＋1－919－571－0928

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋ $1-817-804-3888$
䀦：＋1－817－804－3899

## ｜SOUTH DAKOTA

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112
C．：＋1－651－429－2544
细：＋1－651－429－3104

## ARROW ELECTRONICS

EDEN PRAIRIE，MN 55344
C ：＋1－952－828－5300
㽖：＋1－952－828－5415

## AVNET，INC．

BLOOMINGTON，MN 55431
C．：＋1－952－346－3000
掘：＋1－952－881－9461

DIGI－KEY CORPORATION
THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
䕎：＋1－218－681－3380

## FUTURE ELECTRONICS

CHANHASSEN，MN 55317
C ：＋1－952－934－9100
㶲：＋1－952－934－6700

MOUSER ELECTRONICS
MANSFIELD，TX 76063
C．：＋1－817－804－3888
倫：＋1－817－804－3899

## ｜TEXAS

## RAM ELECTRONIC SALES－DALLAS

2301 OHIO DRIVE，SUITE 250
PLANO，TX 75093
C ：＋1－972－985－5566
眮：＋1－972－985－5577

RAM ELECTRONIC S ALES－HOUSTON
5102 TARNBROOK DRIVE
HOUSTON，TX 77084
C ：＋1－713－305－3654

## RAM ELECTRONIC SALES－AUSTIN

PMB 1012800 E．WHITESTONE BLVD，SUITE 120 CEDAR PARK， TX 78613

C：$:+1-512-250-5082$
目：＋ $1-512-250-0421$

## ARROW ELECTRONICS

HOUSTON，TX 77042
C：＋1－713－784－9953
睤：＋1－713－953－9953

## ARROW ELECTRONICS

PLANO，TX 75093
C ：＋1－972－985－6600
挶：＋1－972－985－6602

AVNET，INC．
AUSTIN，TX 78727
C ：＋1－512－219－3700
倫：＋1－512－219－3737

AVNET，INC．
DALLAS，TX 75243
C ：＋1－214－553－4300
䜤：＋1－214－553－4395

AVNET，INC．
HOUSTON，TX 77027
C ：＋1－713－627－9800
畦：＋1－713－629－3939

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
塀：＋1－218－681－3380

## EDGE ELECTRONICS

CARROLLTON，TX 75007
C ：＋1－972－323－7977
昭：＋1－972－323－8530

## FUTURE ELECTRONICS

AUSTIN，TX 78731
C．：＋1－512－502－0991
哃：＋1－512－502－0740

## FUTURE ELECTRONICS

HOUSTON，TX 77042
C：＋1－713－785－1155
倱：＋1－713－785－4558

## FUTURE ELECTRONICS

PLANO，TX 75075
C ：＋1－469－467－0080
昭：＋1－469－467－0078

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㖮：＋1－817－804－3899

## ｜TEXAS－EL PASO

## BORDER GROUP

5326 ROCKWOOD ROAD EL PASO， TX 79932
C ：＋1－915－581－7920
缃：＋1－915－581－7920

## ARROW ELECTRONICS

EL PASO，TX 79922
C ：＋1－915－834－6100
㭘：＋1－915－834－6101

## AVNET，INC．

EL PASO，TX 79906
C ：＋1－956－345－6370
昭：＋1－512－287－4052

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
㫻：＋1－218－681－3380

## EDGE ELECTRONICS

CARORLTON，TX 75007－4469
C ：＋1－972－323－7977
䐔：＋1－631－650－3514

## FUTURE ELECTRONICS

EL PASO，TX 79935
C ：＋1－800－444－0050
䐔：＋1－514－695－3707

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
觛：＋1－817－804－3899

## ｜TENNESSEE

REP INC．
11535 GILLELAND ROAD HUNTSVILLE，AL 35803
（CORPORATE OFFICE）
C ：＋1－256－881－9270
昭：＋1－256－882－6692

## ARROW ELECTRONICS

HUNTSVILLE，AL 35805
C ：＋1－256－864－3300
幈：＋1－256－864－3349

## AVNET，INC．

MADISON，AL 35758
C ：＋1－256－774－2600
㫻：＋1－256－774－2624

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
䚪：＋1－218－681－3380

## EDGE ELECTRONICS

FRANKLIN，TN 37064
C．：＋1－615－472－1331
㭘：＋1－631－471－3343

## FUTURE ELECTRONICS

HUNTSVILLE，AL 35805
C ：＋1－256－532－2200
㷁：＋1－256－532－2210

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
倫：＋1－817－804－3899

## ｜UTAH

## ENGLISH DAMCO SALES

6914 S．REDWOOD ROAD SUITE
112 WEST JORDAN，UT 84084
C．：＋1－801－840－4929
I甬：＋1－801－281－8628

## ARROW ELECTRONICS

SALT LAKE CITY，UT 84119
C ：＋1－801－973－8555
细：＋1－801－973－8909

## AVNET，INC．

SALT LAKE CITY，UT 84121
C．：＋1－801－365－3800
相：＋1－801－365－3821

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
眮：＋1－218－681－3380

## FUTURE ELECTRONICS

SALT LAKE CITY，UT 84106
C：＋1－801－467－4448
目：＋1－801－467－3604

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
用：＋1－817－804－3899

## ｜VERMONT

## A／D SALES INC．

1500 DISTRICT AVENUE，1ST \＆ 2ND FLOORS BURLINGTON， MA 01803

C ：＋1－978－851－5400
悀：＋1－978－851－5555

## ARROW ELECTRONICS

WILMINGTON，MA 01887
C ：＋1－978－658－7920
用：＋1－1978－661－6595

## AVNET，INC．

PEABODY，MA 01960
C ：＋1－800－665－2895
悀：＋1－800－447－0602

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
周：＋1－218－681－3380

## FUTURE ELECTRONICS

BOSTON，MA 01740
C ：＋1－978－779－3111
用：＋1－978－779－3199

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
用：＋1－817－804－3899

## VIRGINIA

PINNACLE TECHNOLOGY SALES

1021 MILLCREEK DRIVE \＃5
FEASTERVILLE，PA 19053
C ：＋1－215－322－8370

## ARROW ELECTRONICS

PITTSBURG，PA 15239
C ：＋1－724－327－1130
陯：＋1－724－327－4181

## AVNET，INC．

MT．LAUREL，NJ 08054
C ：＋1－800－526－4812
用：＋1－856－222－6464

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
倫：＋1－218－681－3380

## FUTURE ELECTRONICS

WEXFORD，PA 15090
C：＋1－724－935－9600

## MOUSER ELECTRONICS

BUDD LAKE，NJ 07828
C ：＋1－973－448－0050
用：＋1－973－448－3753

## ｜WASHINGTON

## ARROW ELECTRONICS

BELLEVUE，WA 98004
C ：＋1－425－643－9992
俻：＋1－425－643－9709

## AVNET，INC．

REDMOND，WA 98052
C ：＋1－425－882－7000
俻：＋1－425－882－7070

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C：＋1－218－681－6674
㷁：＋1－218－681－3380

## FUTURE ELECTRONICS

BOTHELL，WA 98021
C ：＋1－206－489－3400
俻：＋1－206－489－3411

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
用：＋1－817－804－3899
｜WASHINGTON D．C．
PINNACLE TECHNOLOGY SALES
1021 MILLCREEK DRIVE \＃5 FEASTERVILLE，PA 19053
C ：＋1－215－322－8370

## ARROW ELECTRONICS

COLUMBIA，MD 21046
C：＋1－410－309－0686
周：＋1－410－309－0699

AVNET，INC．
COLUMBIA，MD 21046
C．：＋1－410－423－8800
用：＋1－410－423－8860

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
细：＋1－218－681－3380

## FUTURE ELECTRONICS

LINTHICUM，MD 21090
C ：＋1－410－859－1720
㥜：＋1－410－684－3291

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
梱：＋1－817－804－3899

## ｜WEST VIRGINIA

ELECTRO REPS，INC．
399 WAGON WHEEL TRAIL WEXFORD，PA 15090
C ：＋1－724－612－7392
描：＋1－317－569－7203

## ARROW ELECTRONICS

PITTSBURG，PA 15239
C ：＋1－724－327－1130
昭：＋1－724－327－4181

## AVNET，INC．

PARSIPPANY，NJ 07054
C．：＋1－973－515－1641
缃：＋1－973－515－1600

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
细：＋1－218－681－3380

## FUTURE ELECTRONICS

WEXFORD，PA 15090
C．：＋1－724－935－9600
唈：＋1－724－935－1188

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C．：＋1－817－804－3888
畘：＋1－817－804－3899

## WISCONSIN－ FAR WESTERN <br> （ EAU CLAIRE COUNTY）

## JOHNSON COMPANY

1775 OLD HIGHWAY 8 SUITE 110 NEW BRIGHTON，MN 55112

$$
\begin{aligned}
\text { C: } & +1-651-429-2544 \\
\text { 洞: } & +1-651-429-3104 \\
& \text { * } \\
& \text { Zip codes 540xx } \\
& 546 x x \text { thru } 548 x x
\end{aligned}
$$

## ARROW ELECTRONICS

EDEN PRAIRIE，MN 55344
C．：＋1－952－828－5350
倫：＋1－952－828－5399

## AVNET，INC．

BLOOMINGTON，MN 55431
C ：＋1－952－346－3000
屇：＋1－952－881－9461

## DIGI－KEY

THIEF RIVER FALLS，MN 56701

> C: $+1-218-681-6674$
> 圆: +1-218-681-3380

## FUTURE ELECTRONICS

MINNETONKA，MN 55343
C ：＋1－952－852－0032
䚣：＋1－952－294－0414

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C ：＋1－817－804－3888
㷁：＋1－817－804－3899

## ｜WISCONSIN

## SUMER，INC．

250 NORTH SUNNY SLOPE ROAD STE 260 BROOKFIELD，WI 53005
C ：＋1－262－784－6641
描：＋1－262－784－1436

## ARROW ELECTRONICS

ITASCA，IL 60143
C ：＋1－630－250－0500
侷：＋1－630－250－0916

## AVNET，INC．

PEWAUKEE，WI 53072
C．：＋1－262－513－1500
㷁：＋1－262－513－1544

## DIGI－KEY

THIEF RIVER FALLS，MN 56701
C ：＋1－218－681－6674
㷁：＋1－218－681－3380

## FUTURE ELECTRONICS

BROOKFIELD，WI 53045
C．：＋1－262－879－0244
㭘：＋1－262－879－0250

## MOUSER ELECTRONICS

MANSFIELD，TX 76063
C．：＋1－817－804－3888
畦：＋1－817－804－3899

## CANADA ｜TORONTO

JLT \＆ASSOCIATES，INC
22 SHAVER AVENUE NORTH TORONTO，ON M9B 4N4 CANADA

C ：＋1－705－436－1625
唃：＋1－705－730－9859

## ARROW ELECTRONICS

MISSISSAUGA，ONTARIO L5T 2L6
C ：＋1－800－235－3497
㷁：＋1－905－670－7781

## AVNET ELECTRONICS

MISSISSAUGA，ON L5N 5M4
C ：＋1－905－812－4400
㫽：＋1－905－812－4459

## ELECTROSONIC

TORONTO，ONTARIO M2H 3B3
C ：＋1－416－494－1666
俋：＋1－416－496－3030

## FUTURE ELECTRONICS

MISSISSAUGA，ONTARIO L4V 1W5
C ：＋1－905－624－1125
昭：＋1－905－624－1124

## ｜QUEBEC CITY

JLT \＆ASSOCIATES INC．
251 SECOND AVENUE OTTAWA，
ON K1S 2H8
C．：＋1－613－565－9131
唃：＋1－416－245－9925

## ARROW ELECTRONICS

ONTARIO，CANADA K2K 2MS
C ：＋1－613－271－8200
䁌：＋1－613－271－8203

## AVNET ELECTRONICS

NEPEAN，ONTARIO K2E 7J5
C ：＋1－613－226－1700
䚪：＋1－613－226－1184

## ELECTROSONIC

OTTAWA，ONTARIO K1Z 8N8
C．：＋1－613－28－8333
㭘：＋1－613－728－2263

## FUTURE ELECTRONICS

OTTAWA，ONTARIO K2C 2B5
C．：＋1－613－727－1800
倫：＋1－613－727－9819

## ｜BRITISH COLUMBIA

DAVETEK MARKETING，INC．
444－604 COLUMBIA STREET NEW WESTMINSTER，BC CANADA
C．：＋1－604－430－3680
用：＋1－604－435－5490

## ARROW ELECTRONICS

BURNABY，BC
C ：＋1－604－630－4331
细：＋1－604－630－4301

AVNET INC．
BURNABY，BC
C．：＋1－800－663－5500
煪：＋1－604－420－5376

## ELECTROSONIC

CALGARY，ALBERTA
C ：＋1－403－255－9550
倫：＋1－403－255－0449

ELECTROSONIC
EDMONTON，ALBERTA
C ：＋1－780－413－0859
昭：＋1－780－413－0992

## ELECTROSONIC

RICHMOND，BC
C．：＋1－604－273－2911
唈：＋1－604－273－7360

## ELECTROSONIC

WINNIPEG，MANITOBA
C ：＋1－204－783－3105
㭘：＋1－204－774－7288

## FUTURE ELECTRONICS

CALGARY，ALBERTA
C ：＋1－403－219－3443
悀：＋1－403－291－7054

## FUTURE ELECTRONICS

VANCOUVER，BC
C ：＋1－604－294－1166
用：＋1－604－294－1206

## ALBERTA， SASKATCHEWAN \＆ MANITOBA

## DAVETEK MARKETING，INC．

105A 8988 FRASERTON COURT BURNABY，B．C．V5J 5H8
C．：＋1－604－430－3680
用：＋1－604－435－5490

## ARROW ELECTRONICS

BURNABY，BC
C．：＋1－604－630－4331
屇：＋1－604－630－4301

## AVNET INC．

BURNABY，BC
C．：＋1－800－663－5500
悀：＋1－604－420－5376

## ELECTROSONIC

CALGARY，ALBERTA
C．：＋1－403－255－9550
囘：＋1－403－255－0449

## ELECTROSONIC

EDMONTON，ALBERTA
C ：＋1－780－413－0859
用：＋1－780－413－0992

## ELECTROSONIC

RICHMOND，BC
C ：＋1－604－273－2911
桷：＋1－604－273－7360

## ELECTROSONIC

WINNIPEG，MANITOBA
C ：＋1－204－783－3105
㷁：＋1－204－774－7288

## FUTURE ELECTRONICS

CALGARY，ALBERTA
C ：＋1－403－219－3443
觗：＋1－403－291－7054

## FUTURE ELECTRONICS

VANCOUVER，BC
C ：＋1－604－294－1166
掄：＋1－604－294－1206

ARROW ELECTRONICS
BURNABY，BC
C ：＋1－604－630－4331
翤：＋1－604－630－4301

## MEXICO

JALISCO \＆ALL NON BORDER STATES

## PHOENIX REP SALES

TAPALPA \＃2 COL．VALLARTA
PONIENTE C．P． 44110
GUADALAJARA，JALISCO，MEXICO
C ：＋52－333－123－9199
洞：＋52－333－123－9798

## ARROW ELECTRONICS

ZAPOPAN，JALISCO 45150

$$
C:+52-333-120-2600
$$

㶲：＋52－333－833－2291

## AVNET INC．

TLAQUEPAQUE，JALISCO 45080

> C: +52-333-134-2300
> I囲: $+52-333-133-1788$

FUTURE ELECTRONICS
ZAPOPAN，JALISCO 45050
C ：＋52－333－122－0043
细：＋52－333－122－6610

## JUAREZ \＆

## CHIHUAHUA CITY

## BORDER GROUP

5326 ROCKWOOD ROAD EL PASO， TX 79932

C ：＋1－915－581－7920
缃：＋1－915－581－7920

## ARROW ELECTRONICS

ZAPOPAN，JALISCO 45150
C ：＋52－333－120－2600
唃：＋52－333－833－2291

## AVNET INC．

TLAQUEPAQUE，JALISCO 45080
C ：＋52－333－134－2300
缃：＋52－333－133－1788

## FUTURE ELECTRONICS

ZAPOPAN，JALISCO 45050
C ：＋52－333－122－0043
昭：＋52－333－122－6610

## ｜NOGALES

REPTRONIX，LTD．
2223 S．48TH STREET TEMPE， AZ 85282

C ：＋1－602－230－2630
睤：＋1－602－431－1087

## ARROW ELECTRONICS

ZAPOPAN，JALISCO 45150
C ：＋52－333－120－2600
㲋：＋52－333－833－2291

## AVNET INC．

TLAQUEPAQUE，JALISCO 45080
C ：＋52－333－134－2300
㶲：＋52－333－133－1788

## FUTURE ELECTRONICS

ZAPOPAN，JALISCO 45050
C．：＋52－333－122－0043
昭：＋52－333－122－6610

## ｜TIJUANA

## WEST ELECTRONIC SALES

5355 AVENIDA ENCINAS，
STE 207 CARLSBAD，CA 92008
C ：＋1－760－929－1615
捔：＋1－760－929－1619

## ARROW ELECTRONICS

ZAPOPAN，JALISCO 45150
C ：＋52－333－120－2600
昭：＋52－333－833－2291

AVNET INC．
TLAQUEPAQUE，JALISCO 45080
C ：＋52－333－134－2300
绊：＋52－333－133－1788

## FUTURE ELECTRONICS

ZAPOPAN，JALISCO 45050
C ：＋52－333－122－0043
喵：＋52－333－122－6610

## TEXAS BORDER ACUNA，REYNOSA， MATAMOROS， LAREDO

## RAM ELECTRONIC SALES

2482 VALLE DE ARARECO JUAREZ MEXICO 32546

C．：＋1－915－491－3360
谝：＋1－469－533－2611

## ARROW ELECTRONICS

ZAPOPAN，JALISCO 45150
C ：＋52－333－120－2600
细：＋52－333－833－2291

## AVNET INC．

TLAQUEPAQUE，JALISCO 45080
C ：＋52－333－134－2300
掄 ：＋52－333－133－1788

## BRAZIL

｜SAO PAULO

## TRADECOMP

RUA SANSAO ALVES DOS SANTOS， 433 CJ61 SAO PAULO－SP
04571－090 BRASIL
C ：＋55－11－5507－2627
䚤：＋55－11－5505－7905

## ARROW ELECTRONICS

BARRA FUNDA，SP BRAZIL
C ：＋55－11－3613 9300
㖮 ：＋55－11－36139355

## AVNET ELECTRONICS

SAO PAULO，SP BRAZIL
C ：＋55－11－5079－2150
㖮：＋55－11－5079－2160

## FUTURE ELECTRONICS

CAMPINAS，SP BRAZIL
C ：＋55－19－3737－4126
细 ：＋55－19－3236－9834

## FUTURE ELECTRONICS

ZAPOPAN，JALISCO 45050
C ：＋52－333－122－0043
缃：＋52－333－122－6610

## HEADQUARTERS

LITE－ON Technology Corp．
90，Chien 1 Road，Chung Ho， New Taipei City， 23585 Taiwan
C ：＋886－2－2222－6181
觛：＋886－2－2221－1948 http：／／www．liteon．com／opto

## FACTORY

LITE－ON Electronics（Tian Jin） Co．，LTD

No． 11 Fu Yuan Road，Wuqing
Development Area，
Tianjin 301700 China
C．：＋86－22－8219－3000
缃：＋86－22－8212－2405

## LITE－ON Technology

（Chang Zhou）Co．，LTD
No．88，Yanghu Road，Wujin Hi－Tech Industrial Development Zone，Jiangsu， 213166 China
C ：＋86－519－8306－8888
煪 ：＋86－519－8306－9999

## LITE－ON Electronics（Thailand）

 Co．，LTD38／4 Moo 1，Rangsit Ongkarak Road，Bunyeetoh Tanyaburi Patthumthani 12130 Bangkok Thailand
C．：＋662－5331－208－16
䍏：＋662－5331－747

## SALES OFFICE

 ｜AMERICAMilpitas，California
LITE－ON，INC．
720 S．Hillview Drive Milpitas， CA 95035
C．：＋1－408－946－4873
误：＋1－408－941－4597

## Austin，Texas

## LITE－ON，INC．

1826 Kramer Lane Building A， Suite D Austin，TX 78758
C．：＋1－512－835－6052
畠：＋1－512－835－4942

Chicago，Wisconsin
LITE－ON，INC．
C．：＋1－262－862－9451
䌿：＋1－262－862－9460

## ｜ASIA／PACIFIC

## LITE－ON Electronics（Tian Jin）

 Co．，LTDNo． 11 Fu Yuan Road，Wuqing
Development Area，Tianjin 301700 China

C ：＋86－22－8219－3000
觛 ：＋86－22－8212－2405

## LITE－ON Technology

（Chang Zhou）Co．，LTD
No．88，Yanghu Road，Wujin Hi－Tech Industrial Development Zone，Jiangsu， 213166 China
C ：＋86－519－8306－8888
鼍：＋86－519－8306－9999

## LITE－ON Technology

（Dongguang）Co．，LTD
No．1，Zheng An Road，Shang Jiao Section Chang An Town， Dongguang City，Guangdong， 523878 China

C：＋86－519－8306－8888
周 ：＋86－519－8306－9999

## LITE－ON Electronics H．K．LTD．

RM904－905，9／FI．，International Plaza， 20 Sheung Yuet Road， Kowloon Bay，Kowloon 523878 H．K．
C ：＋852－2796－3012～4
周：＋852－2796－0044

## LITE－ON JAPAN LTD

8F，No． 2 Dic Bidg．，2－16－2
Sotokanda，Chiyoda－Ku，
Tokyo 101－0021 Japan
C ：＋81－3－3258－6502
䀝：＋81－3－3258－6505

## Lite－ON Singapore Pte LTD

22，Sin Ming Lane，\＃03－83 Midview
City Singapore 573969
C．：＋65－6349－0918
挏：＋65－6349－0910

## ｜EUROPE

LITE－ON Electronics（Europe） LTD
23 Apex Business Village
Cramlington Northumberland
NE23 7BF，UK
C．：＋44－191－250－4931
缃：＋44－191－250－4798

## LITE－ON Technology（Europe） <br> B．V．

Havelstrasse 7，
24539 Neumuenster，Germany
C．：＋49－4321－55555－0
圆：＋49－4321－55555－29

## | Note

## | Note

## | Note

## LITEON｜

## 光寶科技股份有限公司

23585 台灣新北市中和區建一路90號
Tel＋886－2－2222－6181
Fax＋886－2－2221－1948

## LITE－ON TECHNOLOGY CORP．

90，Chien 1 Road，Chung Ho，New Taipei City 23585，Taiwan，R．O．C．


[^0]:    * Electro-optical testing conducted in single pulse mode, $\mathrm{T}_{\mathrm{on}}=300 \mathrm{~ms}, \mathrm{I}_{\mathrm{F}}=1000 \mathrm{~mA}$

