

**Transient protection load dump**

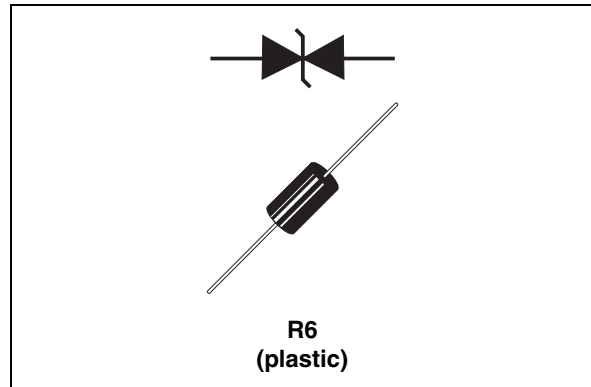
Datasheet – production data

**Features**

- Lead-free package
- High surge capability: 15 A / 40 ms

**Description**

Transient voltage suppressor diode especially useful for protecting integrated circuits, MOS hybrids and other voltage sensitive semiconductors and components.



# 1 Characteristics

**Table 1. Absolute ratings (limiting values)  $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise stated**

| Symbol    | Parameter                                 |   | Value       | Unit               |
|-----------|---|---|-------------|--------------------|
| $V_{PP}$  | Peak pulse load dump overvoltage          | $T_{amb} = 85\text{ }^{\circ}\text{C}$  | 100         | V                  |
| P         | Power dissipation on infinite heatsink    | $T_{amb} = 100\text{ }^{\circ}\text{C}$ | 5           | W                  |
| $I_{FSM}$ | Non repetitive surge peak forward current | $t_p = 10\text{ ms}$                    | 200         | A                  |
| $T_{stg}$ | Storage temperature range                 |   | -65 to +175 | $^{\circ}\text{C}$ |
| $T_j$     | Maximum operating temperature             |   | 175         | $^{\circ}\text{C}$ |

**Table 2. Thermal parameter**

| Symbol        | Parameter   | Maximum | Unit                 |
|---------------|---|---------|----------------------|
| $R_{th(j-a)}$ | Junction ambient thermal resistance on infinite heatsink<br>$L_{lead} = 10\text{ mm}$ | 15      | $^{\circ}\text{C/W}$ |

**Table 3. Electrical characteristics - parameter definitions ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ )**

| Symbol   | Parameter          |
|----------|--------------------|
| $V_{RM}$ | Stand-off voltage  |
| $V_{BR}$ | Breakdown voltage  |
| $V_{CL}$ | Clamping voltage   |
| $I_{PP}$ | Peak pulse current |
| C        | Capacitance        |
| $I_{RM}$ | Leakage current    |

**Table 4. Static parameters**

| Order code | $I_{RM} @ V_{RM}$ max. |    | $I_{RM} @ V_{RM}$ min. at 85 $^{\circ}\text{C}$ . |    | $V_{CL} @ I_{PP}$ min. <sup>(1)</sup> |    | $\Delta T$ Typ. <sup>(2)</sup> | C Typ<br>$V_R = 0V$<br>F = 1MHz. | $V_{BR} @ I_R$ min. |    |
|------------|------------------------|----|---|----|---------------------------------------|----|--------------------------------|----------------------------------|---------------------|----|
|            | $\mu A$                | V  | $\mu A$   | V  | V                                     | A  | $10^{-4}/^{\circ}\text{C}$     | pF                               | V                   | mA |
| LDP35CA    | 5                      | 35 | 300   | 35 | 55                                    | 15 | 9.9                            | 6400                             | 36                  | 1  |

1. 10/40 ms wave form

2.  $\Delta V_{BR} = aT \times (T_a - 25^{\circ}\text{C}) \times V_{BR}(25^{\circ}\text{C})$

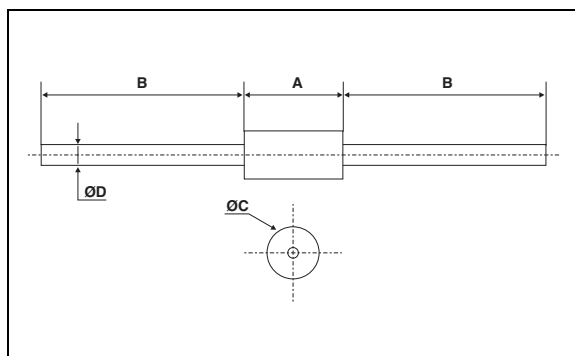
## 2 Package information

- Epoxy meets UL94, V0
- Lead-free package

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**Table 5. R6 dimensions**

| Ref. | Dimensions  |      |        |       |
|------|-------------|------|--------|-------|
|      | Millimeters |      | Inches |       |
|      | Min.        | Max. | Min.   | Max.  |
| A    | 8.6         | 9.1  | 0.338  | 0.358 |
| B    | 25.4        |      | 1      |       |
| Ø C  | 8.6         | 9.1  | 0.338  | 0.358 |
| Ø D  | 1.2         | 1.3  | 0.047  | 0.051 |



### 3 Ordering information

Table 6. Ordering information

| Order code | Marking | Package | Weight  | Base qty | Delivery mode |
|------------|---------|---------|---------|----------|---------------|
| LDP35CARL  | LDP35CA | R6      | 2.048 g | 1000     | Tape and reel |

### 4 Revision history

Table 7. Document revision history

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 22-Jun-2012 | 1        | Initial release. |

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