



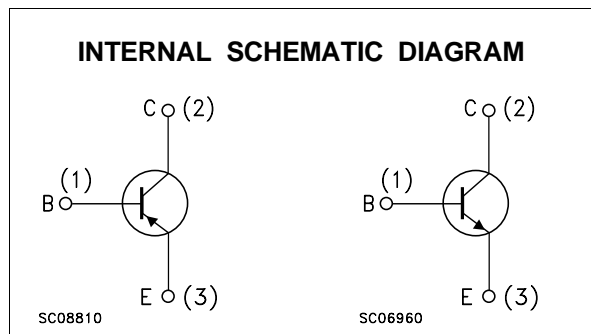
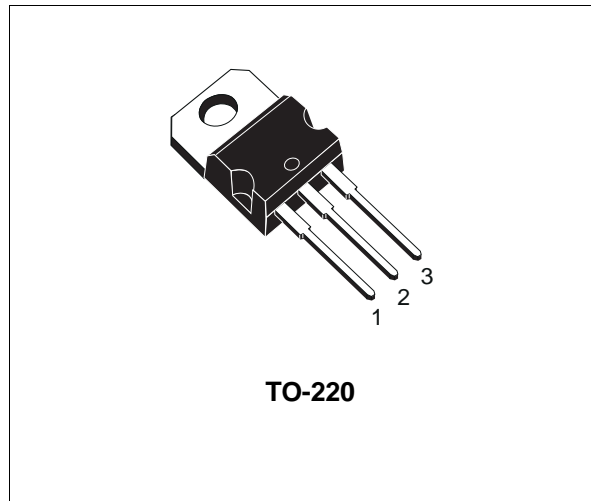
MJE2955T
MJE3055T

COMPLEMENTARY SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES

DESCRIPTION

The MJE3055T is a silicon Epitaxial-Base NPN transistor in Jedec TO-220 package. It is intended for power switching circuits and general-purpose amplifiers. The complementary PNP type is MJE2955T.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | | Unit |
|-----------|---|-------|------------|------------------|
| | | NPN | MJE3055T | |
| | | PNP | MJE2955T | |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | | 60 | V |
| V_{CBO} | Collector-Base Voltage ($I_E = 0$) | | 70 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | | 5 | V |
| I_C | Collector Current | | 10 | A |
| I_B | Base Current | | 6 | A |
| P_{tot} | Total Power Dissipation at $T_{case} \leq 25\text{ }^\circ\text{C}$ | | 75 | W |
| T_{stg} | Storage Temperature | | -55 to 150 | $^\circ\text{C}$ |
| T_j | Max. Operating Junction Temperature | | 150 | $^\circ\text{C}$ |

For PNP types voltage and current values are negative.

MJE2955T / MJE3055T

THERMAL DATA

| | | | | |
|-----------------------|----------------------------------|-----|------|------|
| R _{thj-case} | Thermal Resistance Junction-case | Max | 1.66 | °C/W |
|-----------------------|----------------------------------|-----|------|------|

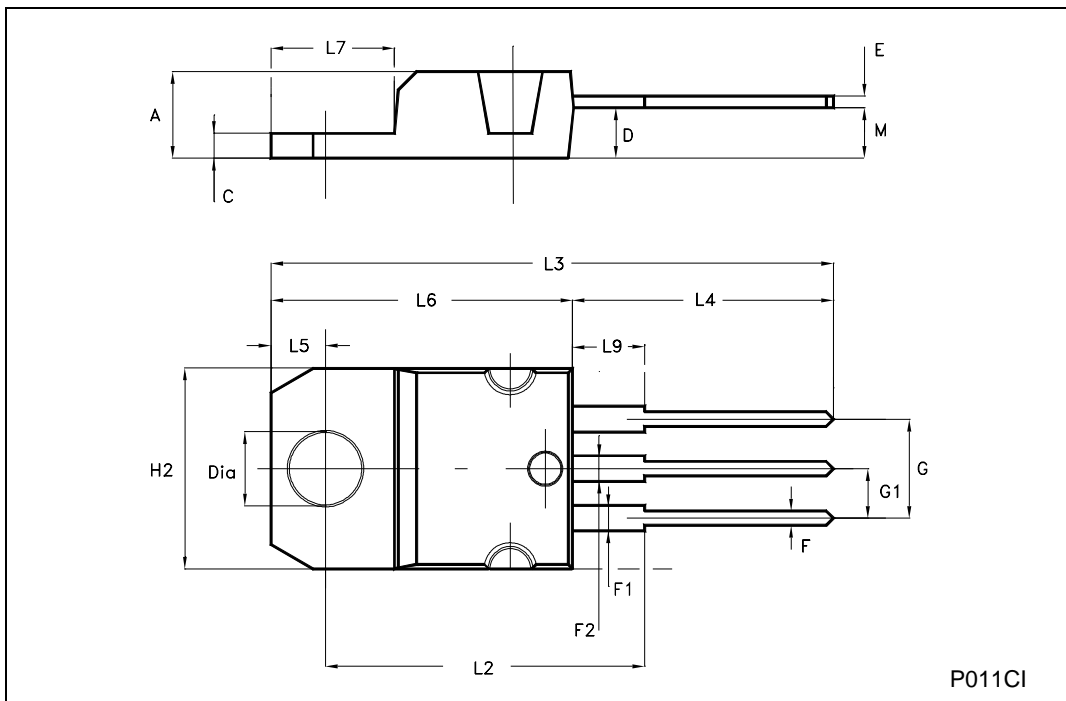
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | | Min. | Typ. | Max. | Unit |
|------------------------|---|--|--|---------|------|----------|----------|
| I _{CEO} | Collector Cut-off Current (I _B = 0) | V _{CE} = 30 V | | | | 700 | μA |
| I _{CEX} | Collector Cut-off Current (V _{BE} = 1.5V) | V _{CE} = 70 V T _{case} = 150°C | | | | 1 5 | mA mA |
| I _{CB0} | Collector Cut-off Current (I _E = 0) | V _{CB0} = 70 V T _{case} = 150°C | | | | 1 10 | mA mA |
| I _{EBO} | Emitter Cut-off Current (I _C = 0) | V _{EBO} = 5 V | | | | 5 | mA |
| V _{CEO(sus)*} | Collector-Emitter Sustaining Voltage (I _B = 0) | I _C = 200 mA | | 60 | | | V |
| V _{CE(sat)*} | Collector-Emitter Sustaining Voltage | I _C = 4 A I _C = 10 A | I _B = 0.4 A I _B = 3.3 A | | | 1.1 8 | V V |
| V _{BE(on)*} | Base-Emitter on Voltage | I _C = 4 A | V _{CE} = 4 V | | | 1.8 | V |
| h _{FE} | DC Current Gain | I _C = 4 A I _C = 10 A | V _{CE} = 4 V V _{CE} = 4 V | 20 5 | | 70 | |
| f _T | Transistor Frequency | I _C = 500 mA f = 500 KHz | V _{CE} = 10 V | 2 | | | MHz |

* Pulsed: Pulse duration = 300μs, duty cycle ≤ 2 %
For PNP type voltage and current values are negative.

TO-220 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|-------|-------|-------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 4.40 | | 4.60 | 0.173 | | 0.181 |
| C | 1.23 | | 1.32 | 0.048 | | 0.052 |
| D | 2.40 | | 2.72 | 0.094 | | 0.107 |
| E | 0.49 | | 0.70 | 0.019 | | 0.027 |
| F | 0.61 | | 0.88 | 0.024 | | 0.034 |
| F1 | 1.14 | | 1.70 | 0.044 | | 0.067 |
| F2 | 1.14 | | 1.70 | 0.044 | | 0.067 |
| G | 4.95 | | 5.15 | 0.194 | | 0.202 |
| G1 | 2.40 | | 2.70 | 0.094 | | 0.106 |
| H2 | 10.00 | | 10.40 | 0.394 | | 0.409 |
| L2 | | 16.40 | | | 0.645 | |
| L4 | 13.00 | | 14.00 | 0.511 | | 0.551 |
| L5 | 2.65 | | 2.95 | 0.104 | | 0.116 |
| L6 | 15.25 | | 15.75 | 0.600 | | 0.620 |
| L7 | 6.20 | | 6.60 | 0.244 | | 0.260 |
| L9 | 3.50 | | 3.93 | 0.137 | | 0.154 |
| M | | 2.60 | | | 0.102 | |
| DIA. | 3.75 | | 3.85 | 0.147 | | 0.151 |



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