



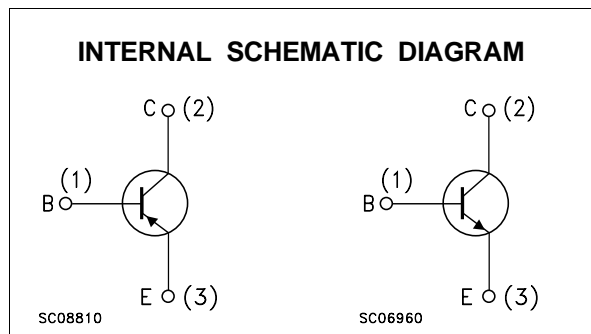
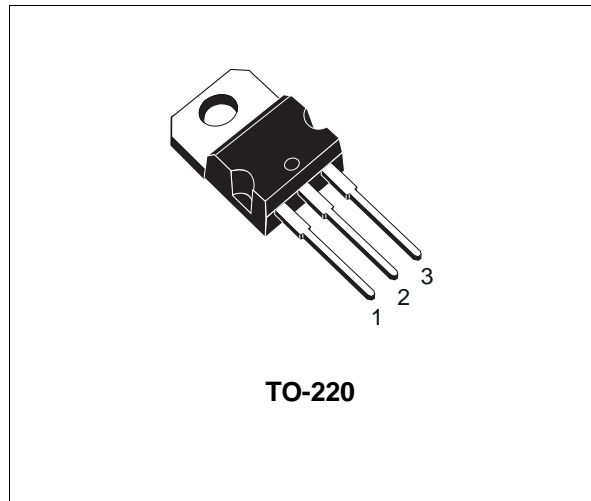
MJE2955T
MJE3055T

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 |
|-----------------------|----------------------------------|-----|------|------|

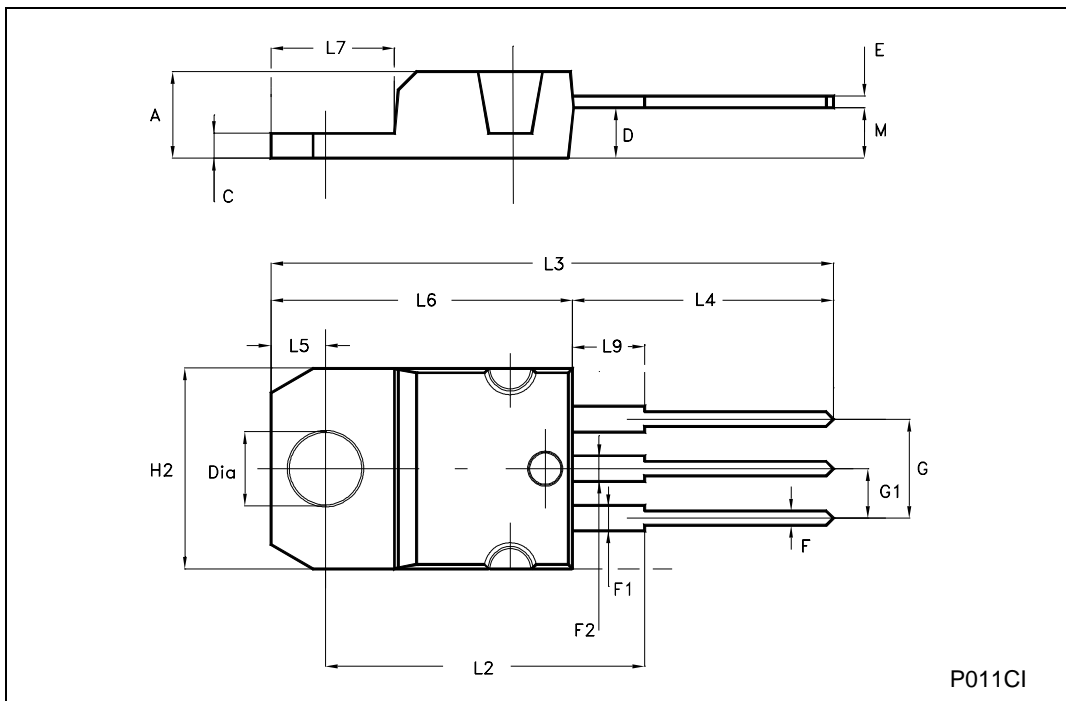
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| 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 |



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics.

All other names are the property of their respective owners.

© 2003 STMicroelectronics – All Rights reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

<http://www.st.com>

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[STMicroelectronics:](#)

[MJE2955T](#) [MJE3055T](#)