

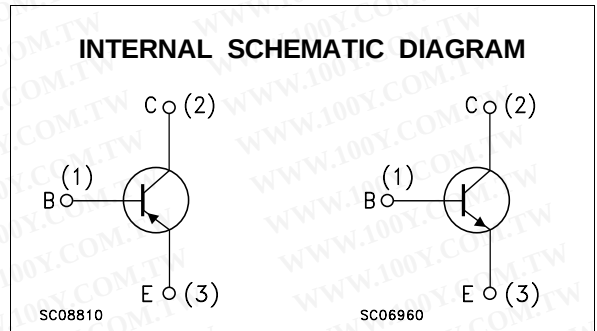
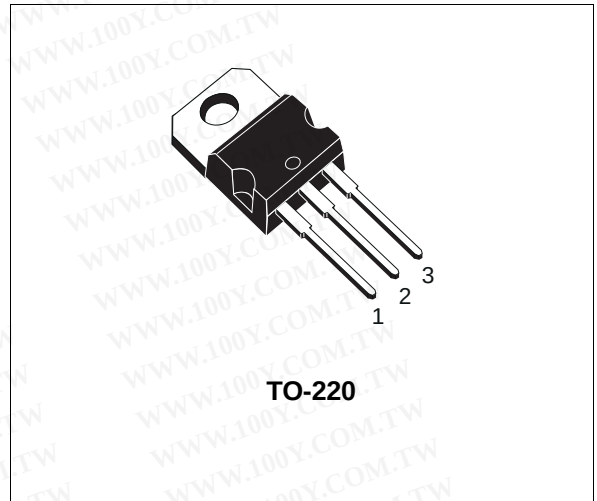
## COMPLEMENTARY SILICON POWER TRANSISTORS

- 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.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)



### 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 $T_{case} \leq 25^\circ C$ |       | 75         | W          |
| $T_{stg}$ | Storage Temperature                                   |       | -55 to 150 | $^\circ C$ |
| $T_j$     | Max. Operating Junction Temperature                   |       | 150        | $^\circ C$ |

For PNP types voltage and current values are negative.

## THERMAL DATA

|                |                                  |     |      |               |
|----------------|----------------------------------|-----|------|---------------|
| $R_{thj-case}$ | Thermal Resistance Junction-case | Max | 1.66 | $^{\circ}C/W$ |
|----------------|----------------------------------|-----|------|---------------|

ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$  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      | $\mu A$      |
| $I_{CEX}$        | Collector Cut-off Current ( $V_{BE} = 1.5V$ )      | $V_{CE} = 70 V$<br>$T_{case} = 150^{\circ}C$  |                                  |         | 1<br>5   | $mA$<br>$mA$ |
| $I_{CBO}$        | Collector Cut-off Current ( $I_E = 0$ )            | $V_{CBO} = 70 V$<br>$T_{case} = 150^{\circ}C$ |                                  |         | 1<br>10  | $mA$<br>$mA$ |
| $I_{EBO}$        | 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               | $I_C = 4 A$<br>$I_C = 10 A$                   | $I_B = 0.4 A$<br>$I_B = 3.3 A$   |         | 1.1<br>8 | V<br>V       |
| $V_{BE(on)}^*$   | Base-Emitter on Voltage                            | $I_C = 4 A$                                   | $V_{CE} = 4 V$                   |         | 1.8      | V            |
| $h_{FE}$         | DC Current Gain                                    | $I_C = 4 A$<br>$I_C = 10 A$                   | $V_{CE} = 4 V$<br>$V_{CE} = 4 V$ | 20<br>5 | 70       |              |
| $f_T$            | Transistor Frequency                               | $I_C = 500 mA$<br>$f = 500 KHz$               | $V_{CE} = 10 V$                  | 2       |          | MHz          |

\* Pulsed: Pulse duration = 300 $\mu s$ , duty cycle  $\leq 2\%$

For PNP type voltage and current values are negative.

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# 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 |

