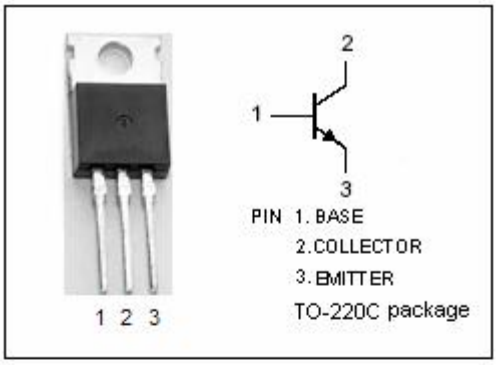
# isc Silicon NPN Power Transistor — MJE3055T

## DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$ = 60V(Min)
- High DC Current Gain-
  : $h_{FE}$= 20-100@$I_C$= 4A
- Complement to Type MJE2955T
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## APPLICATIONS

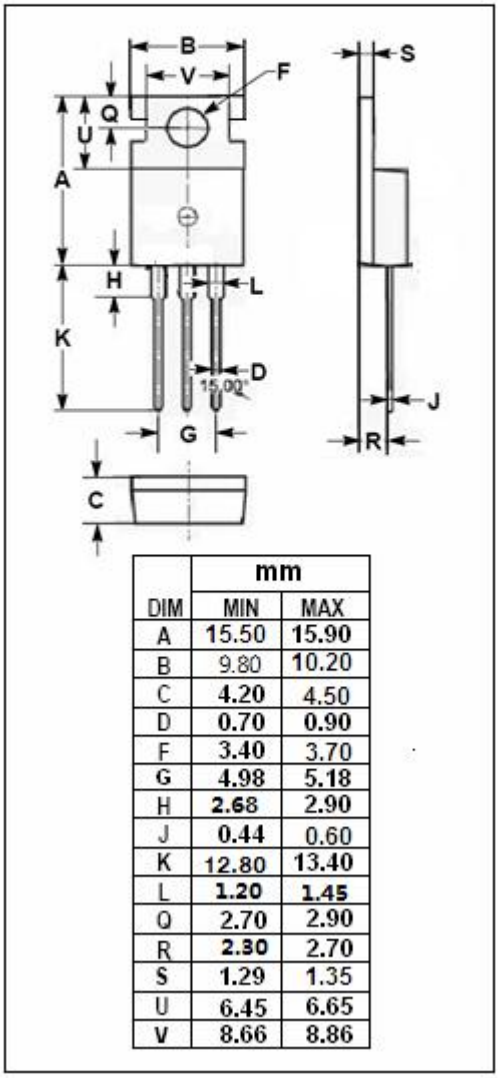
- Designed for use in general-purpose amplifier and switching applications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 70 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 60 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current-Continuous | 10 | A |
| $I_B$ | Base Current-Continuous | 6 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 75 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 1.67 | ℃/W |




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 15.50 | 15.90 |
| B | 9.80 | 10.20 |
| C | 4.20 | 4.50 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.70 |
| G | 4.98 | 5.18 |
| H | 2.68 | 2.90 |
| J | 0.44 | 0.60 |
| K | 12.80 | 13.40 |
| L | 1.20 | 1.45 |
| Q | 2.70 | 2.90 |
| R | 2.30 | 2.70 |
| S | 1.29 | 1.35 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= 50mA; $I_B$= 0 | 60 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C$= 4A; $I_B$= 0.4A | | | 1.1 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C$= 10A; $I_B$= 3.3A | | | 8.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= 4A ; $V_{CE}$= 4V | | | 1.8 | V |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= 30V; $I_B$= 0 | | | 0.7 | mA |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 70V; $I_E$= 0<br>$V_{CB}$= 70V; $I_E$= 0; $T_C$= 150℃ | | | 1.0<br>10 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 5V; $I_C$= 0 | | | 5.0 | mA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 4A ; $V_{CE}$= 4V | 20 | | 100 | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 10A ; $V_{CE}$= 4V | 5 | | | |
| $f_T$ | Current Gain-Bandwidth Product | $I_C$= 0.5A; $V_{CE}$= 10V; f= 500kHz | 2.0 | | | MHz |