

isc Silicon PNP Darlington Power Transistor

MJE702T

DESCRIPTION

- Collector–Emitter Breakdown Voltage—  
:  $V_{(BR)CEO} = -80\text{ V}$
- DC Current Gain—  
:  $h_{FE} = 750(\text{Min}) @ I_C = -2\text{A}$
- Complement to Type MJE802T

APPLICATIONS

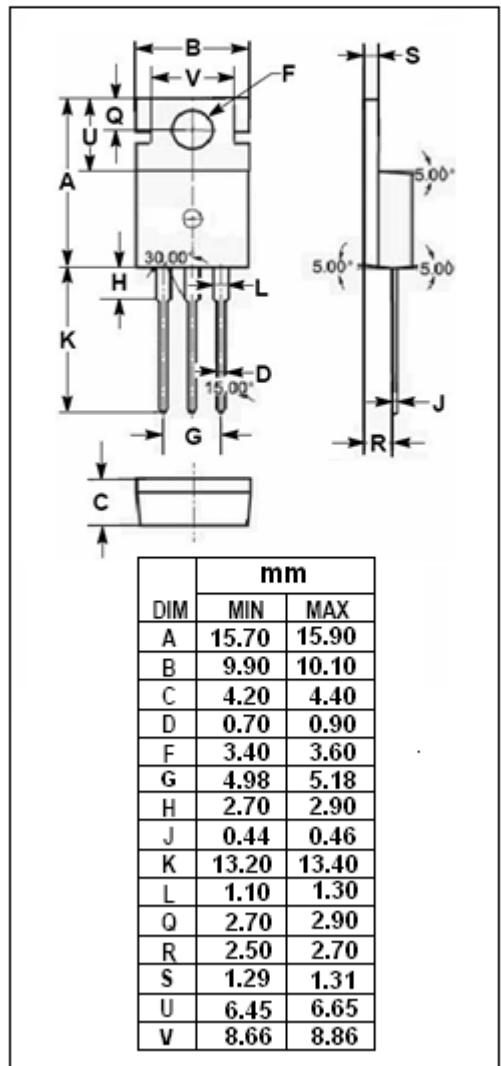
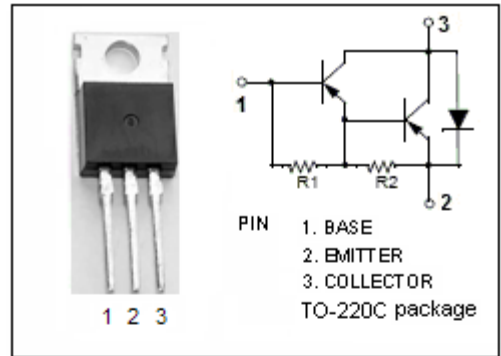
- Designed for general-purpose amplifier and low-speed switching applications

ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                | -80     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                             | -80     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                  | -5      | V                |
| $I_C$     | Collector Current-Continuous                          | -4      | A                |
| $I_B$     | Base Current  | -0.1    | A                |
| $P_C$     | Collector Power Dissipation<br>$T_C=25^\circ\text{C}$ | 50      | W                |
| $T_j$     | Junction Temperature                                  | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                             | -55~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                            | MAX | UNIT               |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 2.5 | $^\circ\text{C/W}$ |



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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL          | PARAMETER                            | CONDITIONS  | MIN | MAX          | UNIT |
|-----------------|--------------------------------------|---|-----|--------------|------|
| $V_{(BR)CEO}$   | Collector-Emitter Breakdown Voltage  | $I_C=-50\text{mA}; I_B=0$   | -80 |              | V    |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C=-1.5\text{A}; I_B=-30\text{mA}$  |     | -2.5         | V    |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C=-4\text{A}; I_B=-40\text{mA}$  |     | -3.0         | V    |
| $V_{BE(on)-1}$  | Base-Emitter On Voltage              | $I_C=-1.5\text{A}; V_{CE}=-3\text{V}$   |     | -2.5         | V    |
| $V_{BE(on)-2}$  | Base-Emitter On Voltage              | $I_C=-4\text{A}; V_{CE}=-3\text{V}$   |     | -3.0         | V    |
| $I_{CEO}$       | Collector Cutoff Current             | $V_{CE}=-80\text{V}; I_B=0$   |     | -0.1         | mA   |
| $I_{CBO}$       | Collector Cutoff Current             | $V_{CB}=-80\text{V}; I_E=0$<br>$V_{CB}=-80\text{V}; I_E=0; T_C=100^{\circ}\text{C}$ |     | -0.1<br>-0.5 | mA   |
| $I_{EBO}$       | Emitter Cutoff Current               | $V_{EB}=-5\text{V}; I_C=0$  |     | -2.0         | mA   |
| $h_{FE-1}$      | DC Current Gain                      | $I_C=-1.5\text{A}; V_{CE}=-3\text{V}$   | 750 |              |      |
| $h_{FE-2}$      | DC Current Gain                      | $I_C=-4\text{A}; V_{CE}=-3\text{V}$   | 100 |              |      |