

isc Silicon NPN Power Transistor

2SC2657

DESCRIPTION

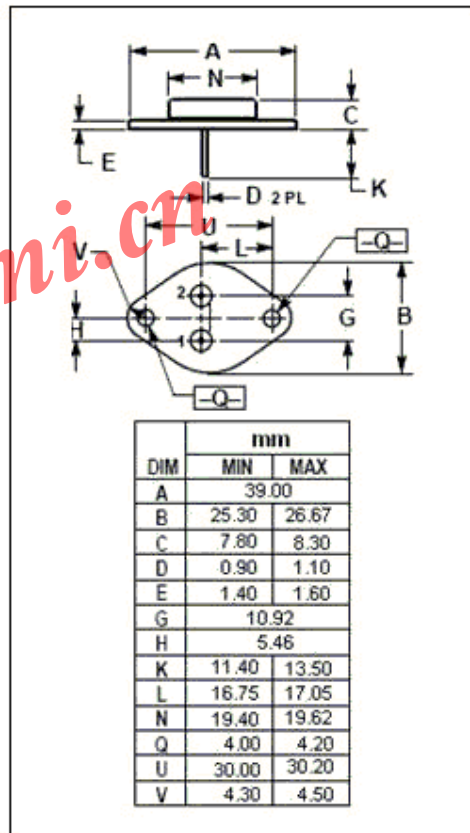
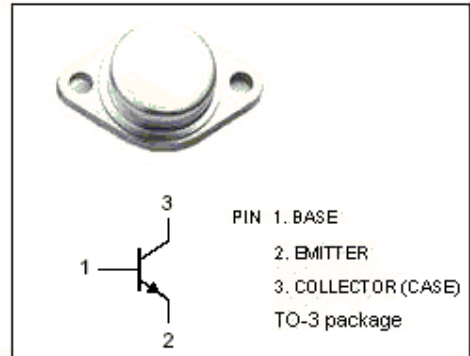
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 500V$  (Min)
- High Switching Speed

APPLICATIONS

- Designed for high speed power switching applications.

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

| SYMBOL    | PARAMETER   | MAX     | UNIT       |
|-----------|---|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                            | 800     | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                         | 500     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                              | 8       | V          |
| $I_C$     | Collector Current-Continuous                      | 1.5     | A          |
| $I_{CM}$  | Collector Current-Peak                            | 3       | A          |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^\circ C$ | 70      | W          |
| $T_j$     | Junction Temperature                              | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature Range                         | -65~150 | $^\circ C$ |



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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL         | PARAMETER                            | CONDITIONS                                  | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|---|-----|------|-----|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = 0.2\text{A}$ ; $L = 25\text{mH}$     | 500 |      |     | V    |
| $V_{CE(sat)}$  | Collector-Emitter Saturation Voltage | $I_C = 1\text{A}$ ; $I_B = 0.2\text{A}$     |     |      | 1.0 | V    |
| $V_{BE(sat)}$  | Base-Emitter Saturation Voltage      | $I_C = 1\text{A}$ ; $I_B = 0.2\text{A}$     |     |      | 1.5 | V    |
| $I_{CBO}$      | Collector Cutoff Current             | $V_{CB} = 800\text{V}$ ; $I_E = 0$          |     |      | 0.1 | mA   |
| $I_{EBO}$      | Emitter Cutoff Current               | $V_{EB} = 5\text{V}$ ; $I_C = 0$            |     |      | 0.1 | mA   |
| $h_{FE-1}$     | DC Current Gain                      | $I_C = 0.1\text{A}$ ; $V_{CE} = 5\text{V}$  | 15  |      |     |      |
| $h_{FE-2}$     | DC Current Gain                      | $I_C = 1\text{A}$ ; $V_{CE} = 5\text{V}$    | 8   |      |     |      |
| $f_T$          | Current-Gain—Bandwidth Product       | $I_C = 0.2\text{A}$ ; $V_{CE} = 10\text{V}$ |     | 2.5  |     | MHz  |

## Switching Times

|           |              |  |  |  |   |               |
|-----------|--------------|--|--|--|---|---------------|
| $t_{on}$  | Turn-On Time | $I_C = 1\text{A}$ ; $I_{B1} = -I_{B2} = 0.2\text{A}$ |  |  | 1 | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |  |  |  | 3 | $\mu\text{s}$ |
| $t_f$     | Fall Time    |  |  |  | 1 | $\mu\text{s}$ |