

isc Silicon NPN Power Transistor

2SC3737

DESCRIPTION

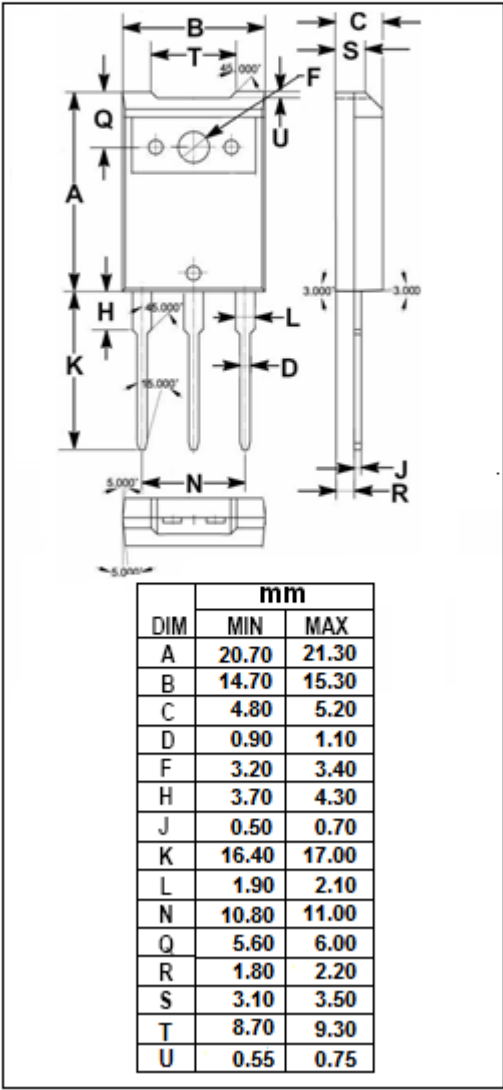
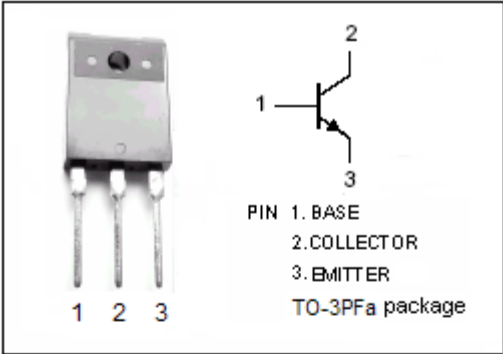
- High Collector-Base Breakdown Voltage-  
:  $V_{(BR)CBO}=800V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation

APPLICATIONS

- Designed for high speed switching and horizontal deflection output applications.

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

| SYMBOL    | PARAMETER                                                 | VALUE   | UNIT               |
|-----------|-----------------------------------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 1200    | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 800     | V                  |
| $V_{EBO}$ | Emitter-Base voltage                                      | 7       | V                  |
| $I_C$     | Collector Current-Continuous                              | 5       | A                  |
| $I_{CM}$  | Collector Current-Peak                                    | 8       | A                  |
| $I_B$     | Base Current-Continuous                                   | 3       | A                  |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^{\circ}\text{C}$ | 100     | W                  |
|           | Collector Power Dissipation<br>@ $T_a=25^{\circ}\text{C}$ | 3       |                    |
| $T_J$     | Junction Temperature                                      | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^{\circ}\text{C}$ |



## ISC Silicon NPN Power Transistor

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL        | PARAMETER                            | CONDITIONS                        | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|-----------------------------------|-----|------|-----|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C=10\text{mA}; I_B=0$          | 800 |      |     | V             |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=2\text{A}; I_B=0.4\text{A}$  |     |      | 1.5 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage      | $I_C=2\text{A}; I_B=0.4\text{A}$  |     |      | 2.0 | V             |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}=1000\text{V}; I_E=0$      |     |      | 100 | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}=6\text{V}; I_C=0$         |     |      | 100 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain                      | $I_C=2\text{A}; V_{CE}=5\text{V}$ | 6   |      | 20  |               |

## Switching times

|           |              |                                                                              |  |  |     |               |
|-----------|--------------|------------------------------------------------------------------------------|--|--|-----|---------------|
| $t_{on}$  | Turn-On Time | $I_C=2\text{A}; I_{B1}=0.4\text{A}, I_{B2}=-0.8\text{A}; V_{CC}=250\text{V}$ |  |  | 1.0 | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |                                                                              |  |  | 3.5 | $\mu\text{s}$ |
| $t_f$     | Fall Time    |                                                                              |  |  | 0.3 | $\mu\text{s}$ |