

isc Silicon NPN Darlington Power Transistor

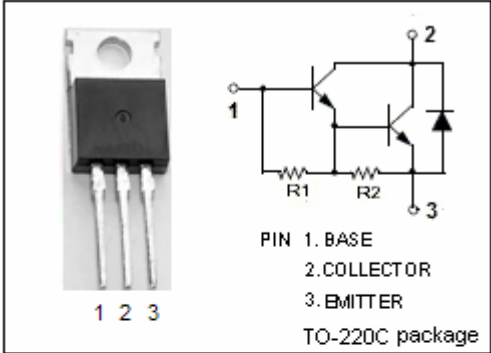
TIP132

DESCRIPTION

- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min}) @ I_C = 4A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 100V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = 2.0V(\text{Max}) @ I_C = 4A$
- Complement to Type TIP137

APPLICATIONS

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

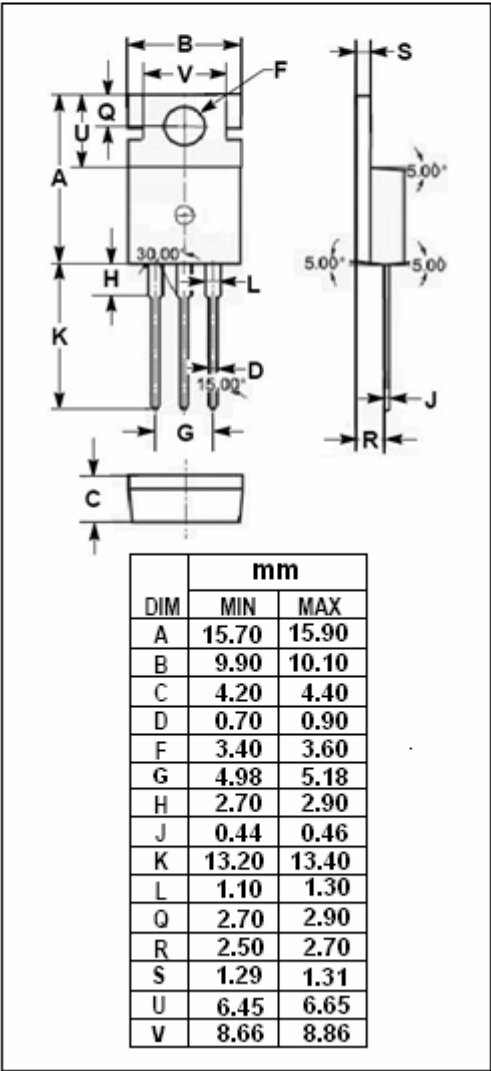


ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL           | PARAMETER                                                 | VALUE   | UNIT               |
|------------------|-----------------------------------------------------------|---------|--------------------|
| $V_{CBO}$        | Collector-Base Voltage                                    | 100     | V                  |
| $V_{CEO}$        | Collector-Emitter Voltage                                 | 100     | V                  |
| $V_{EBO}$        | Emitter-Base Voltage                                      | 5       | V                  |
| $I_C$            | Collector Current-Continuous                              | 8       | A                  |
| $I_{CM}$         | Collector Current-Peak                                    | 12      | A                  |
| $I_B$            | Base Current- Continuous                                  | 0.3     | A                  |
| $P_C$            | Collector Power Dissipation<br>@ $T_C=25^{\circ}\text{C}$ | 70      | W                  |
|                  | Collector Power Dissipation<br>@ $T_a=25^{\circ}\text{C}$ | 2       |                    |
| $T_j$            | Junction Temperature                                      | 150     | $^{\circ}\text{C}$ |
| $T_{\text{stg}}$ | Storage Temperature Range                                 | -65~150 | $^{\circ}\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                               | MAX   | UNIT                 |
|---------------|-----------------------------------------|-------|----------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case    | 1.785 | $^{\circ}\text{C/W}$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 63.5  | $^{\circ}\text{C/W}$ |



**isc Silicon NPN Darlington Power Transistor****TIP132****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL                 | PARAMETER                            | CONDITIONS                                 | MIN  | MAX   | UNIT |
|------------------------|--------------------------------------|--------------------------------------------|------|-------|------|
| V <sub>CEO(SUS)</sub>  | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = 30mA, I <sub>B</sub> = 0  | 100  |       | V    |
| V <sub>CE(sat)-1</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 4A; I <sub>B</sub> = 16mA |      | 2.0   | V    |
| V <sub>CE(sat)-2</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 6A, I <sub>B</sub> = 30mA |      | 3.0   | V    |
| V <sub>BE(on)</sub>    | Base-Emitter On Voltage              | I <sub>C</sub> = 4A; V <sub>CE</sub> = 4V  |      | 2.5   | V    |
| I <sub>CBO</sub>       | Collector Cutoff Current             | V <sub>CB</sub> = 100V, I <sub>E</sub> = 0 |      | 0.2   | mA   |
| I <sub>CEO</sub>       | Collector Cutoff Current             | V <sub>CE</sub> = 50V, I <sub>B</sub> = 0  |      | 0.5   | mA   |
| I <sub>EBO</sub>       | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0   |      | 5     | mA   |
| h <sub>FE-1</sub>      | DC Current Gain                      | I <sub>C</sub> = 1A; V <sub>CE</sub> = 4V  | 500  |       |      |
| h <sub>FE-2</sub>      | DC Current Gain                      | I <sub>C</sub> = 4A; V <sub>CE</sub> = 4V  | 1000 | 15000 |      |