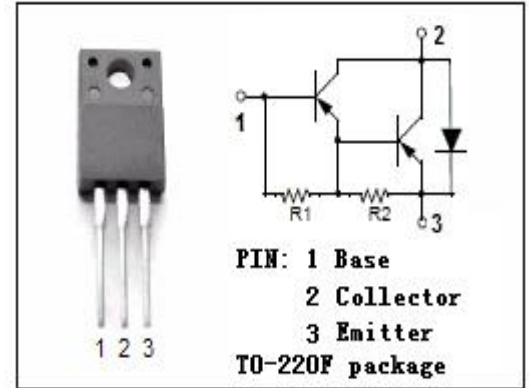


# isc Silicon PNP Darlington Power Transistor

**2SB1481**

## DESCRIPTION

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -100V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 2000(\text{Min})@ (V_{CE} = -2V, I_C = -1.5A)$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = -1.5V(\text{Max})@ (I_C = -3A)$
- Complement to Type 2SD2241
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

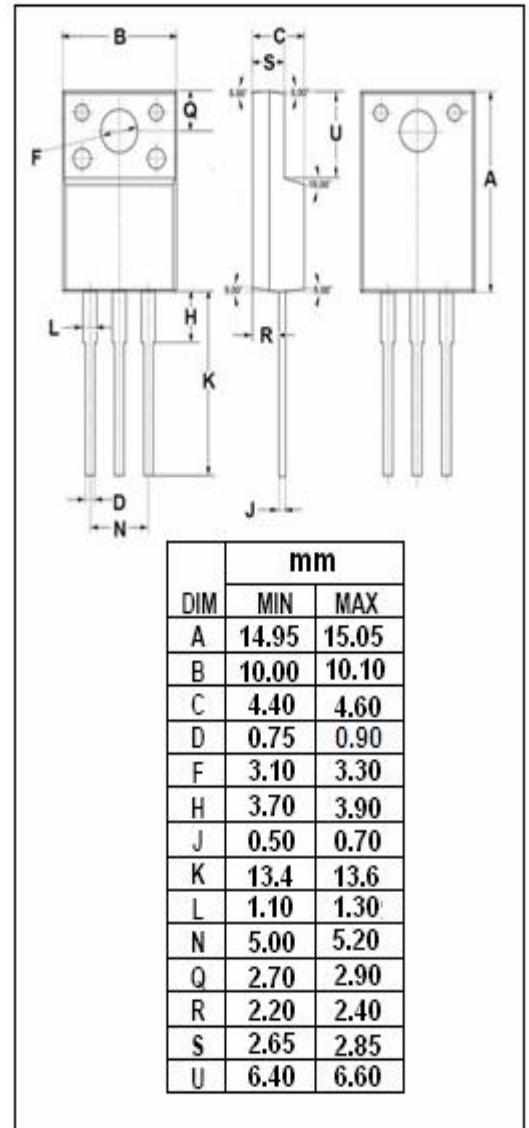


## APPLICATIONS

- High power switching applications.
- Hammer drive, pulse motor drive 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                              | -4      | A                |
| $I_{CM}$  | Collector Current-Pulse                                   | -6      | A                |
| $I_B$     | Base Current-Continuous                                   | -0.3    | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_a = 25^\circ\text{C}$ | 2       | W                |
|           | Collector Power Dissipation<br>@ $T_c = 25^\circ\text{C}$ | 25      |                  |
| $T_J$     | Junction Temperature                                      | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                                       | -55~150 | $^\circ\text{C}$ |



**isc Silicon PNP Darlington Power Transistor****2SB1481****ELECTRICAL CHARACTERISTICS****T<sub>j</sub>=25°C unless otherwise specified**

| SYMBOL               | PARAMETER                            | CONDITIONS                                    | MIN  | TYP. | MAX  | UNIT |
|----------------------|--------------------------------------|-----------------------------------------------|------|------|------|------|
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage  | I <sub>C</sub> = -10mA; I <sub>B</sub> = 0    | -100 |      |      | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = -3A; I <sub>B</sub> = -6mA   |      |      | -1.5 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = -3A; I <sub>B</sub> = -6mA   |      |      | -2.0 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = -100V; I <sub>E</sub> = 0   |      |      | -2.0 | μ A  |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = -5V; I <sub>C</sub> = 0     |      |      | -3.0 | mA   |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>C</sub> = -1.5A; V <sub>CE</sub> = -2V | 2000 |      |      |      |
| h <sub>FE-2</sub>    | DC Current Gain                      | I <sub>C</sub> = -3A; V <sub>CE</sub> = -2V   | 1000 |      |      |      |

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