

# isc Silicon NPN Darlington Power Transistor

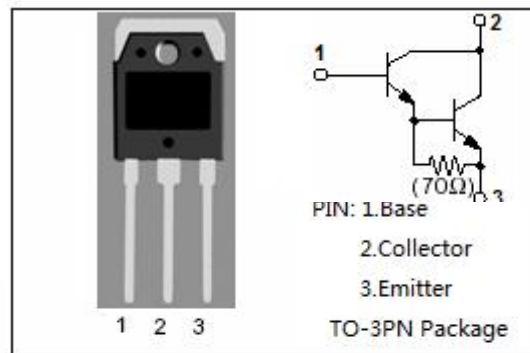
## 2SD2488

### DESCRIPTION

- With TO-3PN package
- DARLINGTON
- High DC current gain

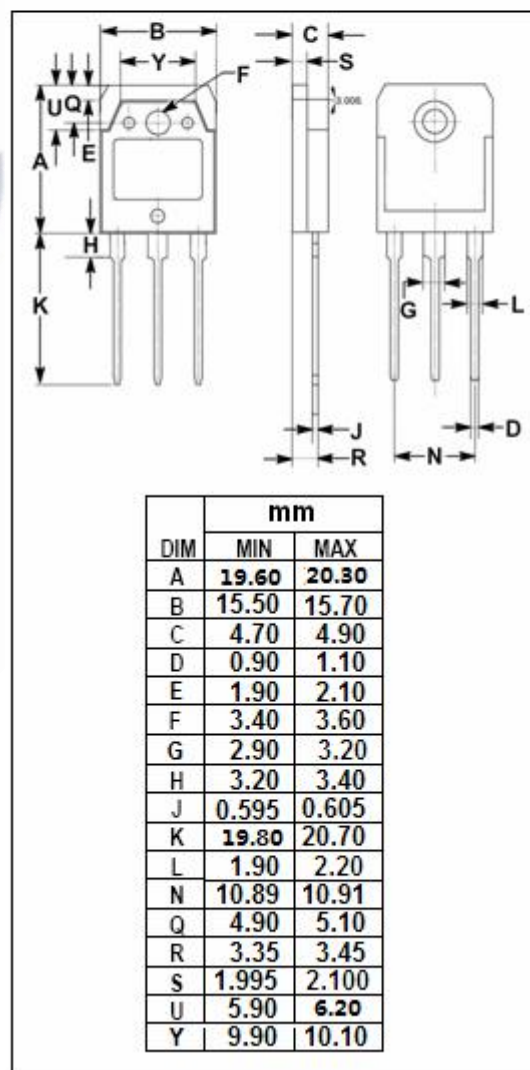
### APPLICATIONS

- Audio ,regulator and general purpose



### Absolute maximum ratings( $T_a=25^{\circ}\text{C}$ )

| SYMBOL    | PARAMETER                                                 | VALUE   | UNIT               |
|-----------|-----------------------------------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 200     | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 200     | V                  |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 5       | V                  |
| $I_C$     | Collector Current-Continuous                              | 15      | A                  |
| $I_B$     | Base Current-Continuous                                   | 1       | A                  |
| $P_C$     | Collector Power Dissipation<br>@ $T_C=25^{\circ}\text{C}$ | 130     | W                  |
| $T_J$     | Junction Temperature                                      | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^{\circ}\text{C}$ |



**isc Silicon NPN Darlington Power Transistor****2SD2488****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> =30mA ; I <sub>B</sub> =0         | 200  |      |       | V    |
| V <sub>CEsat</sub>   | Collector-emitter saturation voltage | I <sub>C</sub> =10A ; I <sub>B</sub> =10mA       |      |      | 2.5   | V    |
| V <sub>BEsat</sub>   | Base-emitter saturation voltage      | I <sub>C</sub> =10A ; I <sub>B</sub> =10mA       |      |      | 3.0   | V    |
| I <sub>CBO</sub>     | Collector cut-off current            | V <sub>CB</sub> =200V I <sub>E</sub> =0          |      |      | 100   | μ A  |
| I <sub>EBO</sub>     | Emitter cut-off current              | V <sub>EB</sub> =5V; I <sub>C</sub> =0           |      |      | 100   | μ A  |
| h <sub>FE</sub>      | DC current gain                      | I <sub>C</sub> =10A ; V <sub>CE</sub> =4V        | 5000 |      | 30000 |      |
| C <sub>ob</sub>      | Output capacitance                   | I <sub>E</sub> =0 ; V <sub>CB</sub> =10V; f=1MHz |      | 120  |       | pF   |
| f <sub>T</sub>       | Transition frequency                 | I <sub>E</sub> =-2A ; V <sub>CE</sub> =12V       |      | 70   |       | MHz  |

**◆ h<sub>FE</sub> Classifications**

| O          | P          | Y           |
|------------|------------|-------------|
| 5000-12000 | 6500-20000 | 15000-30000 |