

## isc Silicon PNP Darlington Power Transistor

BD896

## DESCRIPTION

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -45V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 750(\text{Min}) @ I_C = -3A$
- Collector Power Dissipation-  
:  $P_C = 70W @ T_C = 25^\circ C$
- 8 A Continuous Collector Current
- Complement to Type BD895
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

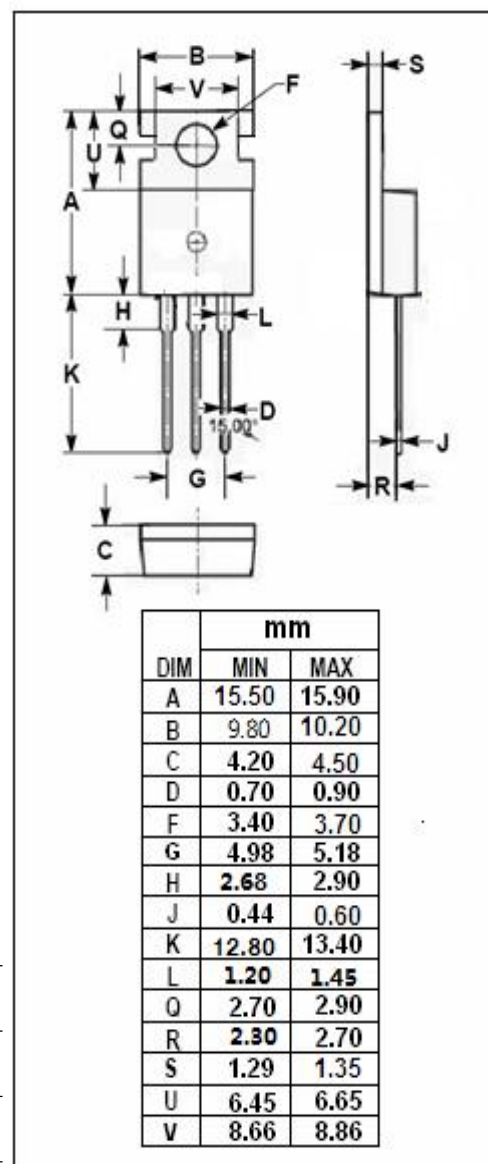
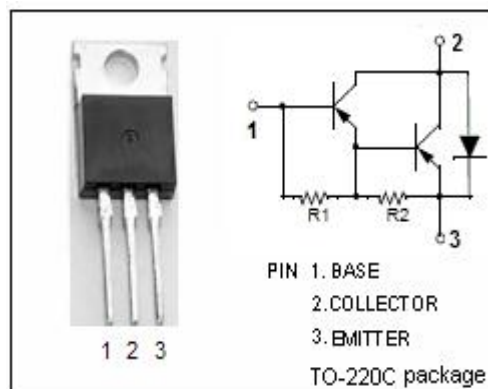
- Designed for use as complementary AF push-pull output stage applications

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT       |
|-----------|---|---------|------------|
| $V_{CBO}$ | Collector-Base Voltage                              | -45     | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                           | -45     | V          |
| $V_{EBO}$ | Emitter-Base Voltage                                | -5      | V          |
| $I_C$     | Collector Current-Continuous                        | -8      | A          |
| $I_B$     | Base Current-Continuous                             | -0.3    | A          |
| $P_C$     | Collector Power Dissipation<br>@ $T_a = 25^\circ C$ | 2       | W          |
|           | Collector Power Dissipation<br>@ $T_C = 25^\circ C$ | 70      |            |
| $T_J$     | Junction Temperature                                | 150     | $^\circ C$ |
| $T_{stg}$ | Storage Temperature Range                           | -65~150 | $^\circ C$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                               | MAX  | UNIT         |
|--------------|---|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case    | 1.79 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ C/W$ |



**isc Silicon PNP Darlington Power Transistor****BD896****ELECTRICAL CHARACTERISTICS****T<sub>C</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> = -50mA; I <sub>B</sub> = 0                         | -45 |      |      | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = -3A; I <sub>B</sub> = -12mA                       |     |      | -2.5 | V    |
| V <sub>BE(on)</sub>  | Base-Emitter On Voltage              | I <sub>C</sub> = -3A; V <sub>CE</sub> = -3V                        |     |      | -2.5 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = -45V; I <sub>E</sub> = 0                         |     |      | -0.2 | mA   |
|                      |                                      | V <sub>CB</sub> = -45V; I <sub>E</sub> = 0; T <sub>C</sub> = 100°C |     |      | -2.0 |      |
| I <sub>CEO</sub>     | Collector Cutoff Current             | V <sub>CE</sub> = -30V; 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                          |     |      | -2   | mA   |
| h <sub>FE</sub>      | DC Current Gain                      | I <sub>C</sub> = -3A; V <sub>CE</sub> = -3V                        | 750 |      |      |      |

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