

**isc Silicon NPN Power Transistor**
**BU941ZT**
**DESCRIPTION**

- High Voltage
- DARLINGTON
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

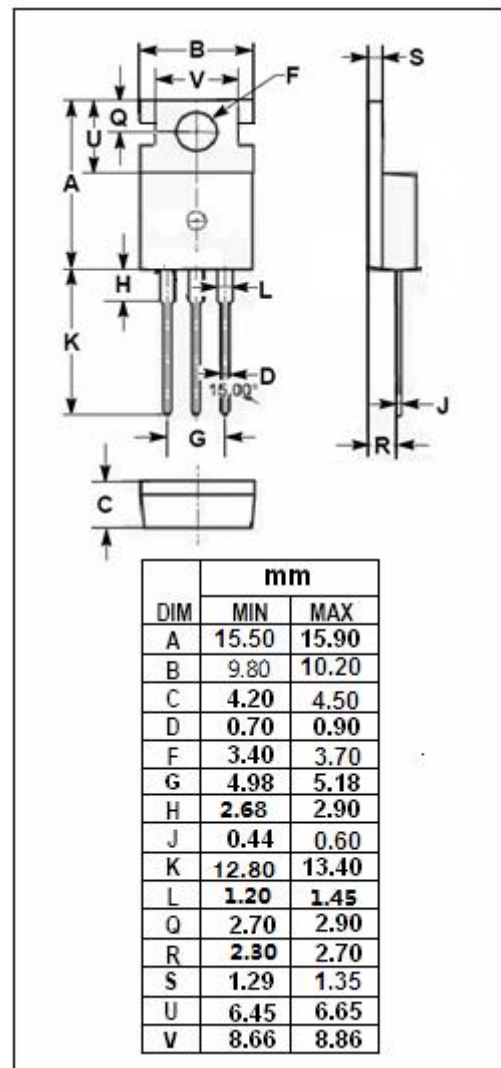
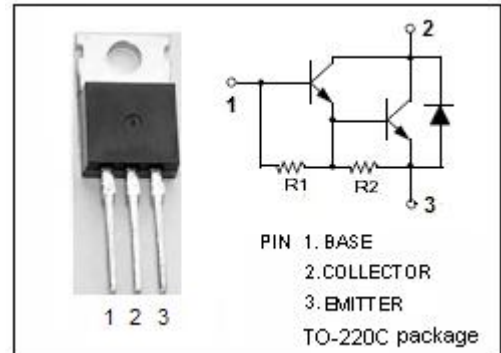
- High ruggedness electronic ignitions
- High voltage ignition coil driver

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 500     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 350     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 5       | V                |
| $I_C$     | Collector Current- Continuous                           | 15      | A                |
| $I_{CM}$  | Collector Current-Peak                                  | 30      | A                |
| $I_B$     | Base Current  | 1       | A                |
| $I_{BM}$  | Base Current-Peak                                       | 5       | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^\circ\text{C}$ | 150     | W                |
| $T_j$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -65~150 | $^\circ\text{C}$ |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                            | MAX | UNIT               |
|---------------|--------------------------------------|-----|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.2 | $^\circ\text{C/W}$ |



## isc Silicon NPN Power Transistor

## BU941ZT

## ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

| SYMBOL                 | PARAMETER                            | CONDITIONS   | MIN | TYP | MAX        | UNIT |
|------------------------|--------------------------------------|--|-----|-----|------------|------|
| V <sub>CEO(SUS)</sub>  | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = 50mA; I <sub>B</sub> = 0  | 350 |     |            | V    |
| V <sub>CE(sat)-1</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 8 A; I <sub>B</sub> = 100mA   |     |     | 1.8        | V    |
| V <sub>CE(sat)-2</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 10 A; I <sub>B</sub> = 250mA  |     |     | 1.8        | V    |
| V <sub>BE(sat)-1</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 8 A; I <sub>B</sub> = 100mA   |     |     | 2.2        | V    |
| V <sub>BE(sat)-2</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 10 A; I <sub>B</sub> = 250mA  |     |     | 2.5        | V    |
| I <sub>CEO</sub>       | Collector Cutoff Current             | V <sub>CE</sub> = 300V; I <sub>B</sub> = 0<br>V <sub>CE</sub> = 300V; I <sub>B</sub> = 0; T <sub>J</sub> = 125°C |     |     | 0.1<br>0.5 | mA   |
| I <sub>EBO</sub>       | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>C</sub> = 0   |     |     | 20         | mA   |
| h <sub>FE</sub>        | DC Current Gain                      | I <sub>C</sub> = 5A ; V <sub>CE</sub> = 10V  | 300 |     |            |      |
| V <sub>ECF</sub>       | C-E Diode Forward Voltage            | I <sub>F</sub> = 10A   |     |     | 2.5        | V    |

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