

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Power Transistor

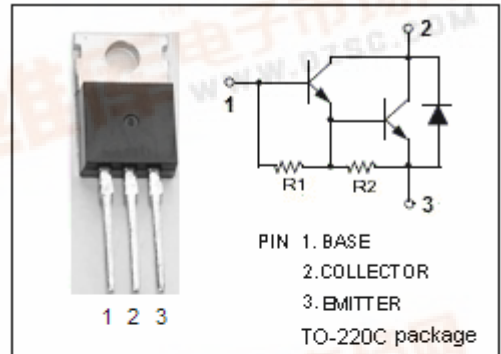
BU922

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 450V(\text{Min})$

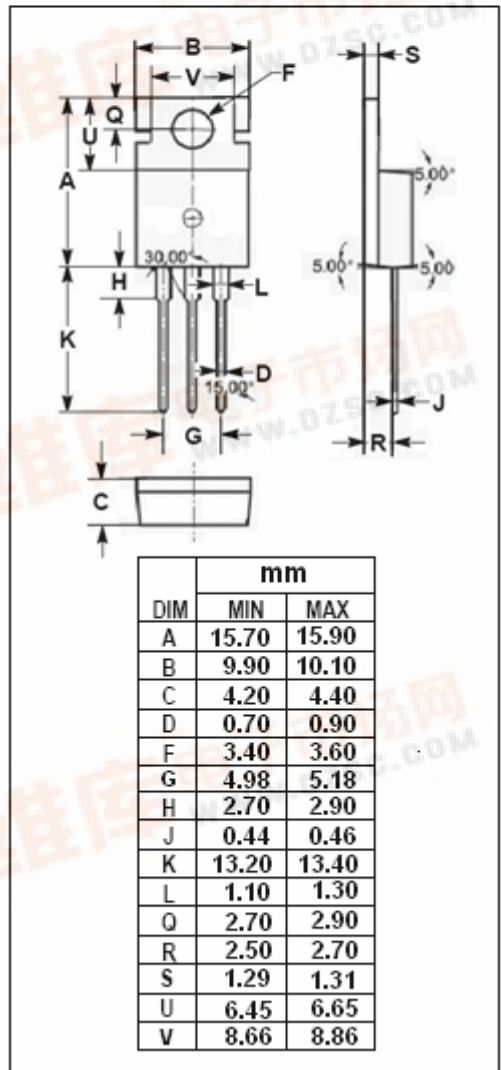
APPLICATIONS

- Designed for automotive ignition applications and inverter circuits for motor control.



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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CES} | Collector-Emitter Voltage $V_{BE} = 0$ | 500 | V |
| V_{CEO} | Collector-Emitter Voltage | 450 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 10 | A |
| I_{CM} | Collector Current-peak | 15 | A |
| I_B | Base Current | 5 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 105 | 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 | $^\circ\text{C/W}$ |



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------|--------------------------------------|---|-----|------|-------------|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=0.1\text{A}; I_B=0$ | 450 | | | V |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C=5\text{A}; I_B=50\text{mA}$ | | | 1.8 | V |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C=7\text{A}; I_B=140\text{mA}$ | | | 1.8 | V |
| $V_{BE(sat)-1}$ | Base-Emitter Saturation Voltage | $I_C=5\text{A}; I_B=50\text{mA}$ | | | 2.2 | V |
| $V_{BE(sat)-2}$ | Base-Emitter Saturation Voltage | $I_C=7\text{A}; I_B=140\text{mA}$ | | | 2.5 | V |
| I_{CES} | Collector Cutoff Current | $V_{CE}=500\text{V}; V_{BE}=0$ $V_{CE}=500\text{V}; V_{BE}=0; T_j=150^{\circ}\text{C}$ | | | 0.25 0.5 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE}=450\text{V}; I_B=0$ | | | 0.25 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 50 | mA |
| V_{ECF} | C-E Diode Forward Voltage | $I_F=7\text{A}$ | | | 2.5 | V |