

isc Silicon NPN Power Transistor

2N6290

DESCRIPTION

- DC Current Gain-
: $h_{FE} = 30-150 @ I_C = 2.5A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 50V(\text{Min})$
- Complement to Type 2N6109
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

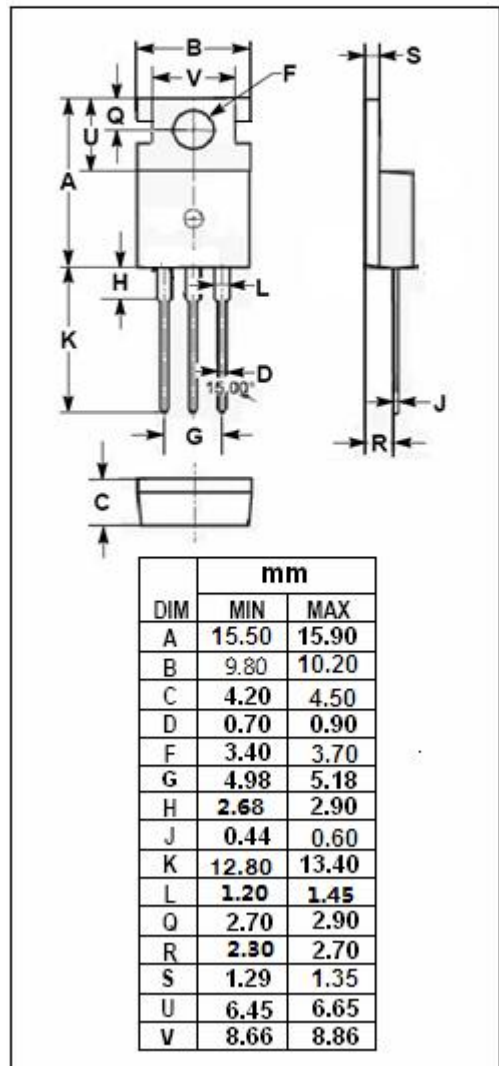
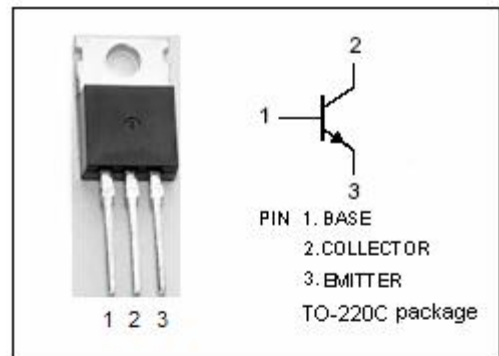
- Designed for use in general-purpose amplifier and switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 7 | A |
| I_{CM} | Collector Current-Peak | 10 | A |
| I_B | Base Current | 3 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 40 | 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 | 3.125 | $^\circ\text{C/W}$ |



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

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------|--------------------------------------|---|-----|------------|------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=50\text{mA}; I_B=0$ | 50 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=7\text{A}; I_B=3\text{A}$ | | 3.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C=7\text{A}; V_{CE}=4\text{V}$ | | 3.0 | V |
| I_{CEX} | Collector Cutoff Current | $V_{CE}=60\text{V}; V_{BE(off)}=1.5\text{V}$ $V_{CE}=50\text{V}; V_{BE(off)}=1.5\text{V}; T_C=150^{\circ}\text{C}$ | | 0.1 2.0 | mA |
| I_{CEO} | Collector Cutoff Current | $V_{CE}=50\text{V}; I_B=0$ | | 1.0 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | 1.0 | mA |
| h_{FE-1} | DC Current Gain | $I_C=2.5\text{A}; V_{CE}=4\text{V}$ | 30 | 150 | |
| h_{FE-2} | DC Current Gain | $I_C=7\text{A}; V_{CE}=4\text{V}$ | 2.3 | | |
| C_{OB} | Output Capacitance | $I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$ | | 250 | pF |
| f_T | Current-Gain—Bandwidth Product | $I_C=0.5\text{A}; V_{CE}=4\text{V}; f_{test}=1\text{MHz}$ | 10 | | MHz |

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