

isc Silicon NPN Power Transistor
2SD909
DESCRIPTION

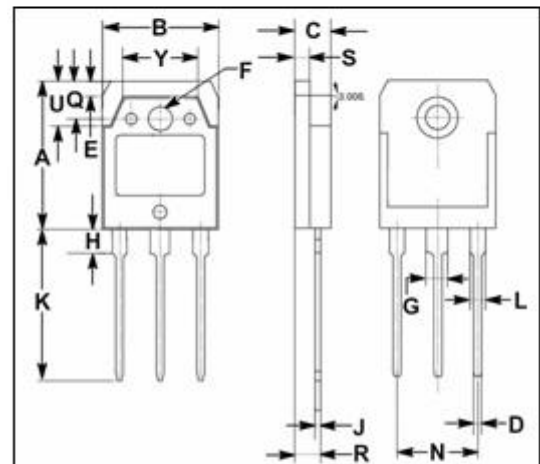
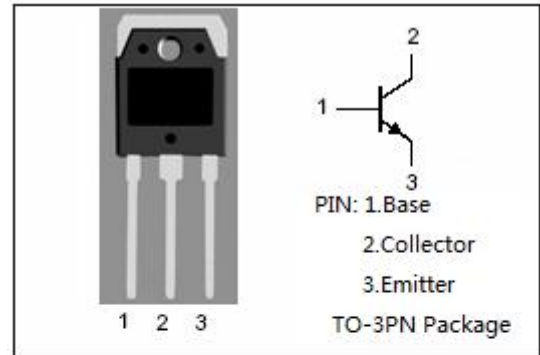
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 80V(\text{Min})$
- High Current Capability
- Good Linearity of h_{FE}
- High Reliability
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Audio amplifier
- Series regulators
- General purpose power amplifiers

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 150 | V |
| V_{CEO} | Collector-Emitter Voltage | 80 | V |
| V_{EBO} | Emitter-Base voltage | 7 | V |
| I_C | Collector Current-Continuous | 15 | A |
| I_B | Base Current-Continuous | 3 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 80 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.60 | 20.30 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 19.80 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.20 |
| Y | 9.90 | 10.10 |

isc Silicon NPN Power Transistor**2SD909****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|------------------------|--------------------------------------|--|-----|------|-----|------|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage | I _C = 10mA; I _B = 0 | 80 | | | V |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage | I _C = 0.1mA; I _E = 0 | 150 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage | I _E = 0.1mA; I _C = 0 | 7 | | | V |
| V _{CE(sat)-1} | Collector-Emitter Saturation Voltage | I _C = 5A; I _B = 0.5A | | | 1.5 | V |
| V _{CE(sat)-2} | Collector-Emitter Saturation Voltage | I _C = 10A; I _B = 1A | | | 3.0 | V |
| V _{BE(sat)-1} | Base-Emitter Saturation Voltage | I _C = 5A; I _B = 0.5A | | | 2.0 | V |
| V _{BE(sat)-2} | Base-Emitter Saturation Voltage | I _C = 10A; I _B = 1A | | | 4.0 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 150V; I _E = 0 | | | 0.1 | mA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 7V; I _C = 0 | | | 0.1 | mA |
| h _{FE} | DC Current Gain | I _C = 2A; V _{CE} = 5V | 60 | | 200 | |
| h _{FE} | DC Current Gain | I _C = 5A; V _{CE} = 5V | 40 | | | |

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