

isc Silicon NPN Power Transistor

2SD1255

DESCRIPTION

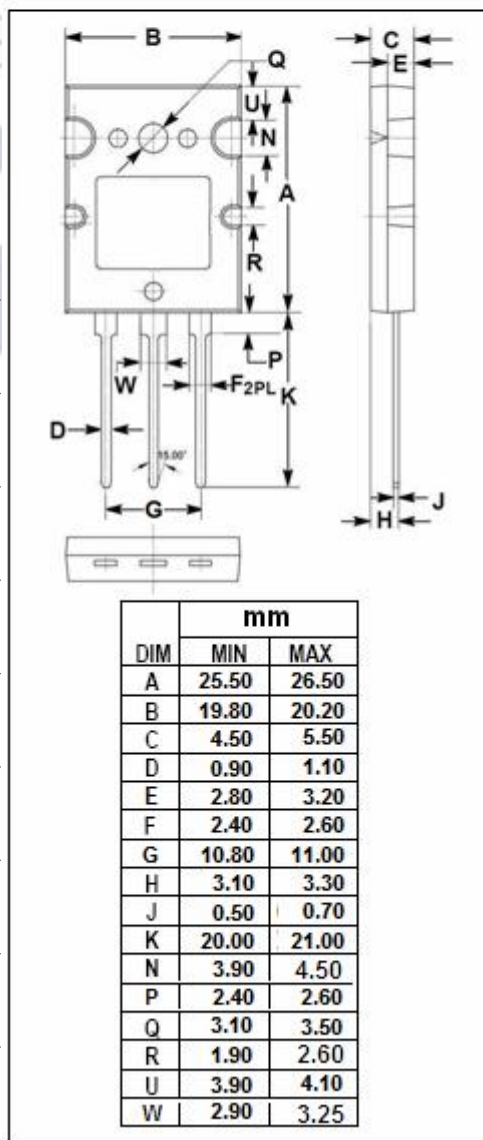
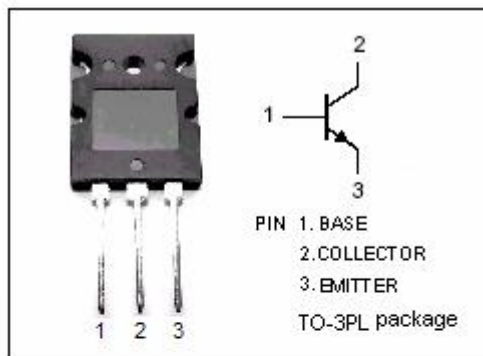
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 130V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.5V(\text{Max.}) @ I_C = 3.0A$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power amplifier applications
- Switching regulators

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------|
| V_{CBO} | Collector-Base Voltage | 150 | V |
| V_{CEO} | Collector-Emitter Voltage | 130 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current-Continuous | 4 | A |
| I_{CM} | Collector Current-Peak | 8 | A |
| P_C | Collector Power Dissipation @ $T_C = 25^\circ C$ | 35 | W |
| T_J | Junction Temperature | 150 | °C |
| T_{stg} | Storage Temperature Range | -55~150 | °C |



isc Silicon NPN Power Transistor**2SD1255****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|--------------------------------------|-----|------|-----|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C=10\text{mA}; I_B=0$ | 130 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=3.0\text{A}; I_B=0.15\text{A}$ | | | 0.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=3.0\text{A}; I_B=0.15\text{A}$ | | | 1.5 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}=150\text{V}; I_E=0$ | | | 50 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 50 | μA |
| h_{FE-1} | DC Current Gain | $I_C=0.1\text{A}; V_{CE}=2\text{V}$ | 45 | | | |
| h_{FE-2} | DC Current Gain | $I_C=1\text{A}; V_{CE}=2\text{V}$ | 90 | | 260 | |
| f_T | Current-Gain—Bandwidth Product | $I_C=0.5\text{A}; V_{CE}=10\text{V}$ | | 30 | | MHz |

◆ **h_{FE-2} Classifications**

| Q | P |
|--------|---------|
| 90-180 | 130-260 |