

isc Silicon NPN Power Transistor

2SD256

DESCRIPTION

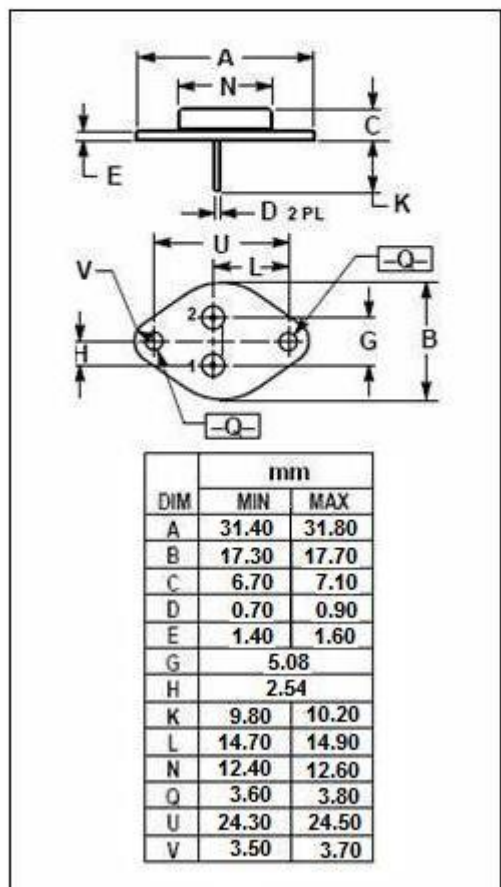
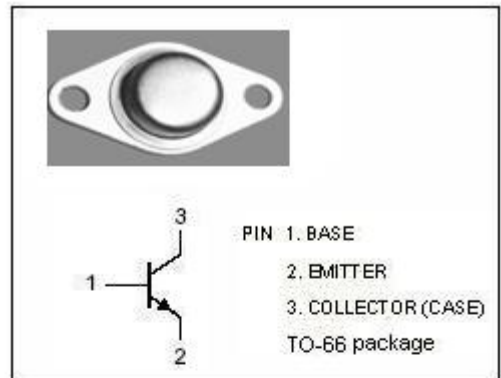
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 40V(\text{Min})$
- Collector Power Dissipation-
: $P_C = 25W @ T_C = 25^\circ C$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

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

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 40 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current-Continuous | 4.0 | A |
| I_{CM} | Collector Current-Peak | 6.0 | A |
| I_B | Base Current | 1.0 | A |
| P_C | Collector Power Dissipation@ $T_C=25^\circ C$ | 25 | W |
| T_J | Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -65~150 | $^\circ C$ |



isc Silicon NPN Power Transistor**2SD256****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------|--------------------------------------|--------------------------------------|-----|-----|---------------|
| $V_{CEQ(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=30\text{mA}; I_B=0$ | 40 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=2\text{A}; I_B=0.4\text{A}$ | | 2.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C=2\text{A}; V_{CE}=4\text{V}$ | | 1.8 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}=60\text{V}; V_{EB}=0$ | | 10 | μA |
| I_{CEO} | Collector Cutoff Current | $V_{CE}=40\text{V}; I_B=0$ | | 0.1 | mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | 10 | μA |
| h_{FE} | DC Current Gain | $I_C=1\text{A}; V_{CE}=4\text{V}$ | 40 | | |
| f_T | Current-Gain—Bandwidth Product | $I_C=0.2\text{A}; V_{CE}=10\text{V}$ | 4 | | MHz |

Switching times

| | | | | | |
|-----------|--------------|---|--|-----|---------------|
| t_r | Rise Time | $I_C=2\text{A}; I_{B1}=0.4\text{A}; I_{B2}=-0.1\text{A}$ $R_L=3\Omega; V_{CC}=6\text{V}$ | | 1.2 | μs |
| t_{stg} | Storage Time | | | 1.6 | μs |
| t_f | Fall Time | | | 1.7 | μs |