

isc Silicon NPN Power Transistor
2SC2242
DESCRIPTION

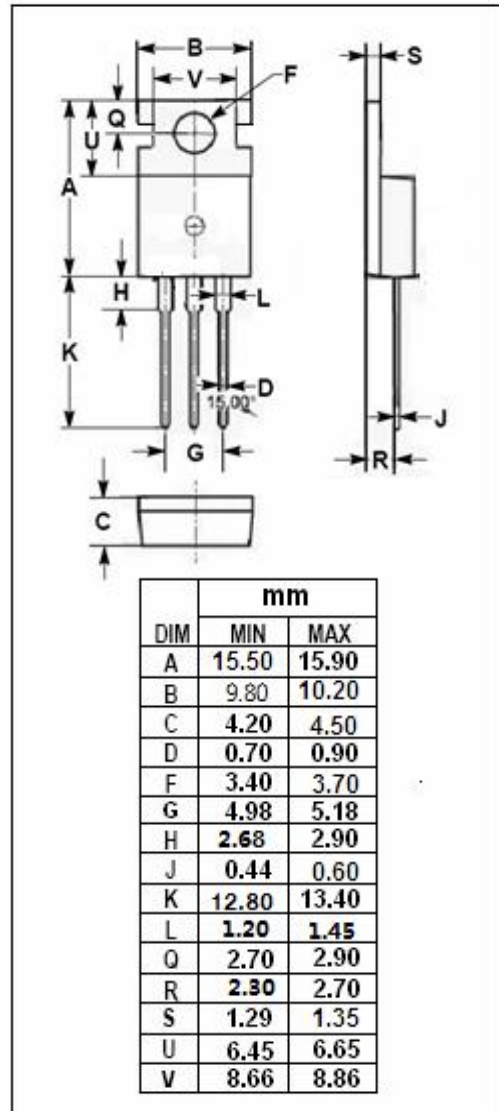
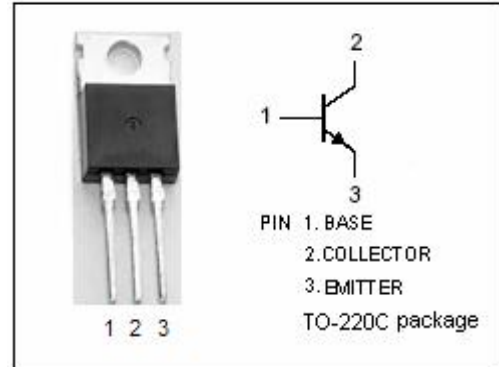
- High Breakdown Voltage-
: $V_{(BR)CBO} = 300V(\text{Min})$
- High Current-Gain—Bandwidth Product-
: $f_T = 20\text{MHz}(\text{Min}) @ I_C = 20\text{mA}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power amplifier applications
- Color TV sound output applications
- Recommended for sound output stage in line operated TV

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 300 | V |
| V_{CEO} | Collector-Emitter Voltage | 300 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 150 | mA |
| I_B | Base Current-Continuous | 50 | mA |
| P_C | Collector Power Dissipation @ $T_a = 25^\circ\text{C}$ | 1.5 | W |
| | Collector Power Dissipation @ $T_c = 25^\circ\text{C}$ | 25 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



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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 | $I_C=5\text{mA}; I_B=0$ | 300 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=100\text{mA}; I_B=10\text{mA}$ | | | 3.0 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C=50\text{mA}; V_{CE}=10\text{V}$ | | | 0.9 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}=240\text{V}; I_E=0$ | | | 1.0 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 1.0 | μA |
| h_{FE} | DC Current Gain | $I_C=50\text{mA}; V_{CE}=10\text{V}$ | 40 | | 170 | |
| C_{OB} | Output Capacitance | $I_E=0; V_{CB}=50\text{V}; f_{test}=1\text{MHz}$ | | 5.5 | 12 | pF |
| f_T | Current-Gain—Bandwidth Product | $I_C=20\text{mA}; V_{CE}=50\text{V}$ | 20 | 50 | | MHz |

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