

isc Silicon NPN Power Transistor

2SC4235

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 800V(\text{Min})$
- Fast Switching speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

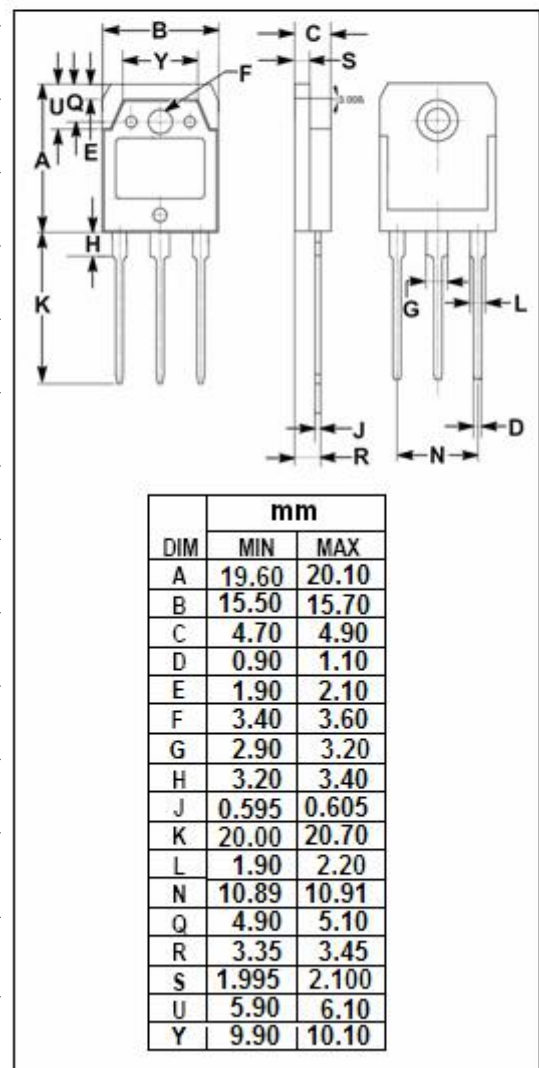
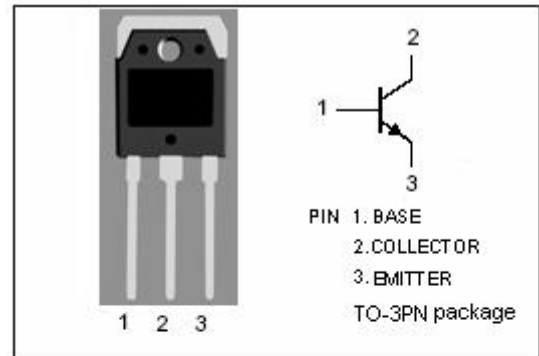
- Color TV horizontal output applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 1200 | V |
| V_{CEO} | Collector-Emitter Voltage | 800 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current-Continuous | 3 | A |
| I_{CM} | Collector Current-Peak | 6 | A |
| I_B | Base Current-Continuous | 1 | A |
| I_{BM} | Base Current-Peak | 2 | A |
| P_T | Total 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 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.56 | $^\circ\text{C/W}$ |



isc Silicon NPN Power Transistor**2SC4235****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|----------------|--------------------------------------|--|-----|------|-----|---------------|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C = 0.1\text{A}; I_B = 0$ | 800 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 1.5\text{A}; I_B = 0.3\text{A}$ | | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = 1.5\text{A}; I_B = 0.3\text{A}$ | | | 1.5 | V |
| I_{CBO} | Collector Cutoff Current | At rated Voltage | | | 100 | μA |
| I_{CEO} | Collector Cutoff Current | At rated Voltage | | | 100 | μA |
| I_{EBO} | Emitter Cutoff Current | At rated Voltage | | | 100 | μA |
| h_{FE-1} | DC Current Gain | $I_C = 1.5\text{A}; V_{CE} = 5\text{V}$ | 8 | | | |
| h_{FE-2} | DC Current Gain | $I_C = 1\text{mA}; V_{CE} = 5\text{V}$ | 7 | | | |
| f_T | Current-Gain—Bandwidth Product | $I_C = 0.3\text{A}; V_{CE} = 10\text{V}$ | | 8 | | MHz |

Switching times

| | | | | | | |
|-----------|--------------|--|--|--|-----|---------------|
| t_{on} | Turn-on Time | $I_C = 1.5\text{A}; I_{B1} = 0.3\text{A}; I_{B2} = -0.6\text{A}$ $R_L = 170\Omega; V_{BB2} = 4\text{V}$ | | | 0.5 | μs |
| t_{stg} | Storage Time | | | | 3.5 | μs |
| t_f | Fall Time | | | | 0.3 | μs |

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