

isc Silicon NPN Power Transistors

MJF44H11

DESCRIPTION

- Low Collector Saturation Voltage-
: $V_{CE(sat)} = 1.0V(\text{Max.}) @ I_C = 8A$
- Fast Switching Speeds
- Complement to Type MJF45H11
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

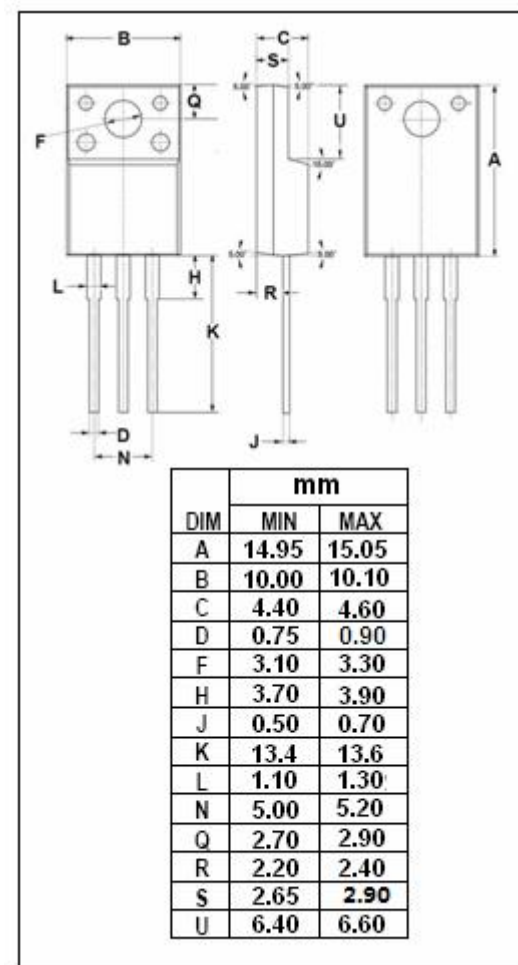
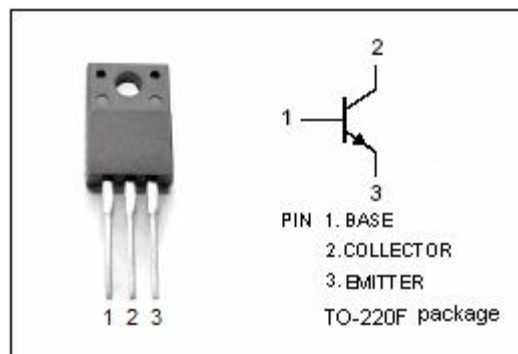
- Designed for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifier.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CEO} | Collector-Emitter Voltage | 80 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current-Continuous | 10 | A |
| I_{CM} | Collector Current-Peak | 20 | A |
| P_C | Collector Power Dissipation @ $T_c = 25^\circ\text{C}$ | 36 | W |
| | Collector Power Dissipation @ $T_a = 25^\circ\text{C}$ | 2 | |
| 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 | 3.5 | $^\circ\text{C}/\text{W}$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ\text{C}/\text{W}$ |



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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 | $I_C=30\text{mA}; I_B=0$ | 80 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=0.4\text{A}$ | | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=8\text{A}; I_B=0.8\text{A}$ | | | 1.5 | V |
| I_{CES} | Collector Cutoff Current | $V_{CE}=\text{Rated } V_{CEO};$ | | | 1.0 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 10 | μA |
| h_{FE-1} | DC Current Gain | $I_C=2\text{A}; V_{CE}=1\text{V}$ | 60 | | | |
| h_{FE-2} | DC Current Gain | $I_C=4\text{A}; V_{CE}=1\text{V}$ | 40 | | | |

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