

isc Silicon NPN Power Transistor

2SC2518

DESCRIPTION

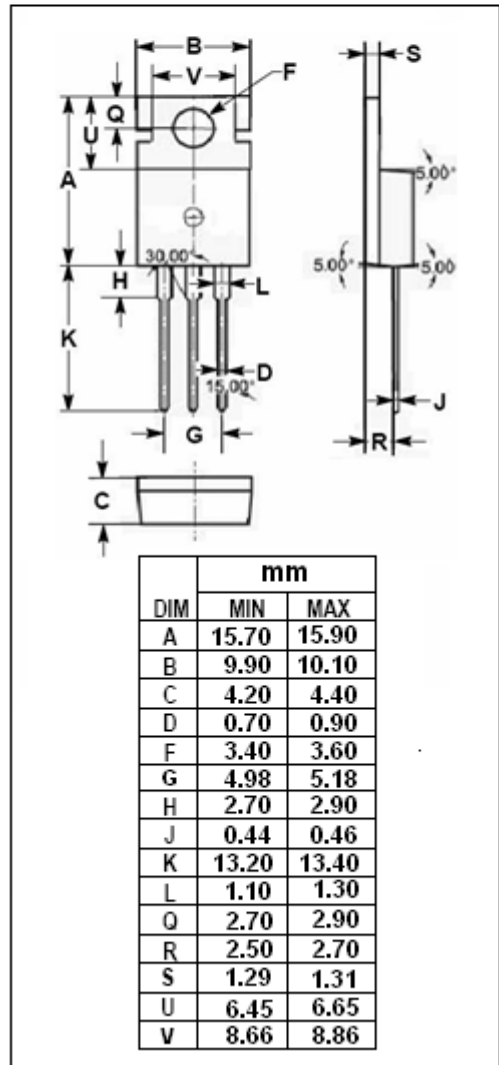
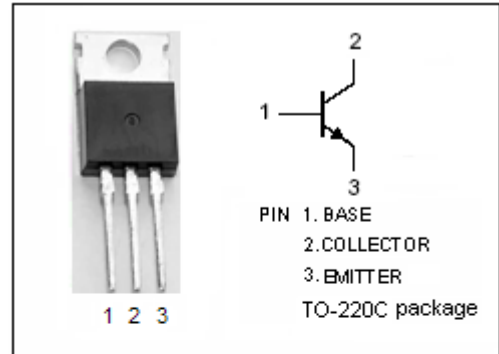
- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 400V(\text{Min})$
- Low Collector Saturation Voltage
- High Speed Switching

APPLICATIONS

- Designed for switching regulator, DC-DC converter and ultrasonic appliance applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 500 | V |
| V_{CEO} | Collector-Emitter Voltage | 400 | V |
| V_{EBO} | Emitter-Base Voltage | 8 | V |
| I_C | Collector Current-Continuous | 5 | A |
| I_{CM} | Collector Current-Peak | 10 | A |
| I_B | Base Current-Continuous | 2.5 | A |
| P_C | Total Power Dissipation @ $T_C=25^\circ\text{C}$ | 40 | W |
| 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 | MAX | UNIT |
|------------------|--------------------------------------|---|-----|-----------|---------------------|
| $V_{CE(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C=2\text{A}; I_B=0.4\text{A}, L=1\text{mH}$ | 400 | | V |
| $V_{CEX(SUS)-1}$ | Collector-Emitter Sustaining Voltage | $I_C=2\text{A}; I_{B1}=-I_{B2}=0.4\text{A}, L=180\mu\text{H}, \text{clamped}$ | 450 | | V |
| $V_{CEX(SUS)-2}$ | Collector-Emitter Sustaining Voltage | $I_C=4\text{A}; I_{B1}=0.8\text{A}; I_{B2}=-0.4\text{A}, L=180\mu\text{H}, \text{clamped}$ | 400 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=2\text{A}; I_B=0.4\text{A}$ | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=2\text{A}; I_B=0.4\text{A}$ | | 1.5 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB}=400\text{V}; I_E=0$ | | 10 | μA |
| I_{CER} | Collector Cutoff Current | $V_{CE}=400\text{V}; R_{BE}=51\Omega, T_a=125^{\circ}\text{C}$ | | 1.0 | mA |
| I_{CEX} | Collector Cutoff Current | $V_{CE}=400\text{V}; V_{BE(off)}=-1.5\text{V}$ $V_{CE}=400\text{V}; V_{BE(off)}=-1.5\text{V}, T_a=125^{\circ}\text{C}$ | | 10 1.0 | μA mA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | 10 | μA |
| h_{FE-1} | DC Current Gain | $I_C=0.5\text{A}; V_{CE}=5\text{V}$ | 20 | 80 | |
| h_{FE-2} | DC Current Gain | $I_C=2\text{A}; V_{CE}=5\text{V}$ | 10 | | |

Switching times

| | | | | | |
|-----------|--------------|---|--|-----|---------------|
| t_{on} | Turn-on Time | $I_C=2\text{A}, R_L=75\Omega,$ $I_{B1}=-I_{B2}=0.4\text{A}, V_{CC}\approx 150\text{V}$ | | 1.0 | μs |
| t_{stg} | Storage Time | | | 2.5 | μs |
| t_f | Fall Time | | | 0.7 | μs |

◆ h_{FE-2} Classifications

| M | L | K |
|-------|-------|-------|
| 20-40 | 30-60 | 40-80 |