

isc Silicon NPN Power Transistor

2SC3506

DESCRIPTION

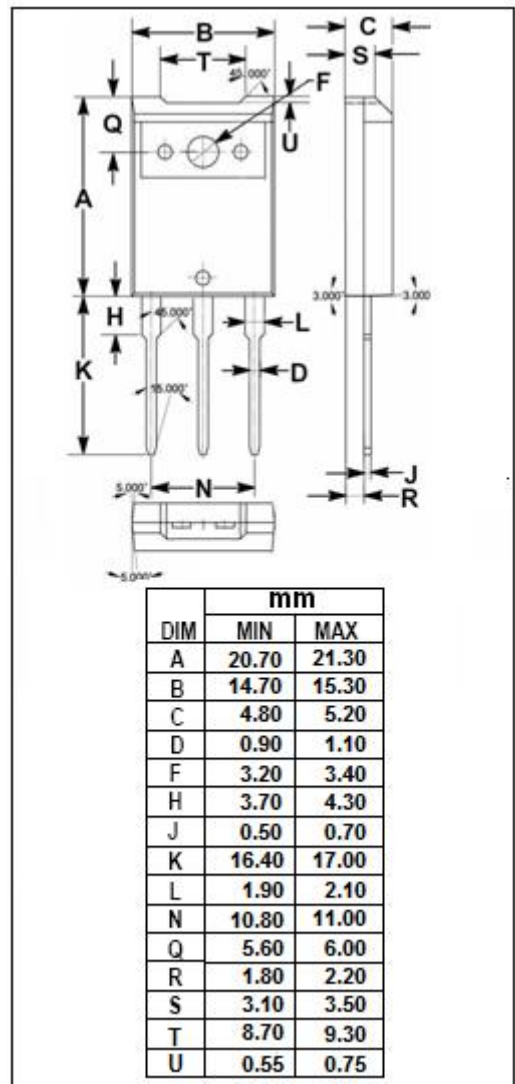
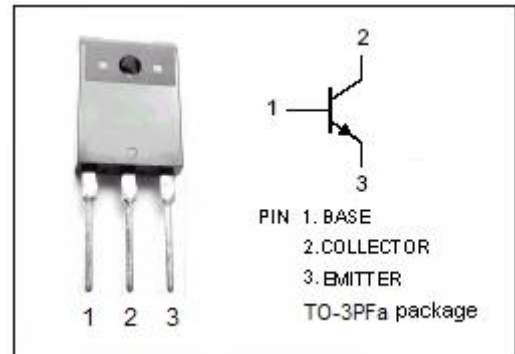
- High Collector-Base Breakdown Voltage-
: $V_{(BR)CBO} = 1000V(\text{Min})$
- High Switching Speed

APPLICATIONS

- Designed for switching regulator and high voltage switching applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 1000 | 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 | 2 | A |
| P_C | Collector Power Dissipation @ $T_C=25^\circ\text{C}$ | 70 | W |
| | Collector Power Dissipation @ $T_a=25^\circ\text{C}$ | 3 | |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



isc Silicon NPN Power Transistor**2SC3506****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|-----|------|-----|------|
| V _{CEQ(SUS)} | Collector-Emitter Sustaining Voltage | I _C = 1mA ; I _B = 0 | 800 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = 2A; I _B = 0.4A | | | 1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = 2A; I _B = 0.4A | | | 1.5 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = 1000V ; I _E = 0 | | | 50 | μ A |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = 7V; I _C = 0 | | | 50 | μ A |
| h _{FE} | DC Current Gain | I _C = 2A ; V _{CE} = 5V | 6 | | | |
| f _T | Current-Gain—Bandwidth Product | I _C = 0.2A ; V _{CE} = 5V; f= 1MHz | | 4 | | MHz |

Switching times

| | | | | | | |
|------------------|--------------|---|--|--|-----|-----|
| t _{on} | Turn-On Time | I _C = 2A; I _{B1} = 0.4A, I _{B2} = -0.8A; V _{CC} = 250V | | | 1.0 | μ s |
| t _{stg} | Storage Time | | | | 2.5 | μ s |
| t _f | Fall Time | | | | 0.5 | μ s |

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