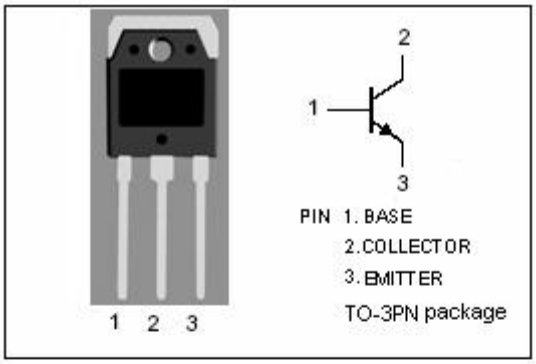
# SPTECH Silicon NPN Power Transistor 2SC3336




## DESCRIPTION

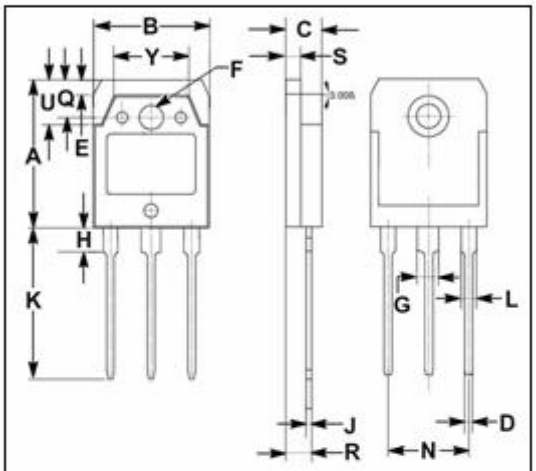
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 400V(Min)
- High Switching Speed

## APPLICATIONS

- Designed for high voltage, high speed and high power switching applications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 500 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 400 | V |
| $V_{EBO}$ | Emitter-Base voltage | 10 | V |
| $I_C$ | Collector Current-Continuous | 15 | A |
| $I_{CM}$ | Collector Current-Peak | 25 | A |
| $I_B$ | Base Current-Continuous | 7.5 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 100 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 19.60 | 20.10 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 20.00 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.10 |
| Y | 9.90 | 10.10 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CEO(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 20mA; $I_B$=0 | 400 | | | V |
| $V_{CEX(SUS)}$ | Collector-Emitter Sustaining Voltage | $I_C$= 15A; $I_{B1}$= 3A; $I_{B2}$= -1A; $V_{BE}$= -5V; L= 180 μH; Clamped | 400 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E$= 10mA; $I_C$= 0 | 10 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 7.5A; $I_B$= 1.5A | | | 1.0 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= 7.5A; $I_B$= 1.5A | | | 1.5 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 400V; $I_E$= 0 | | | 50 | μA |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= 350V; $R_{BE}$= ∞ | | | 50 | μA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 7.5A; $V_{CE}$= 5V | 12 | | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 15A; $V_{CE}$= 5V | 5 | | | |

Switching times

| | | | | | | |
|---|---|---|---|---|---|---|
| $t_{on}$ | Turn-on Time | $I_C$= 15A, $I_{B1}$= -$I_{B2}$= 3A; $V_{CC}$≈ 250V | | | 0.5 | μs |
| $t_{stg}$ | Storage Time | | | | 1.5 | μs |
| $t_f$ | Fall Time | | | | 0.5 | μs |