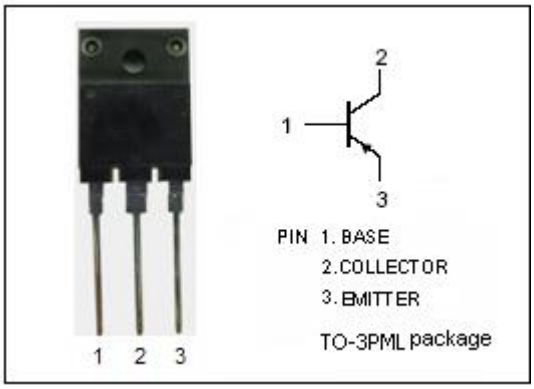
# SPTECH Silicon PNP Power Transistor




## DESCRIPTION

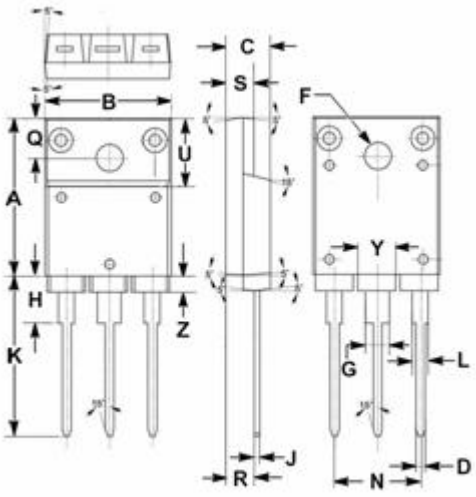
- Low Collector Saturation Voltage
  :$V_{CE(sat)}$= -0.5(V)(Max)@$I_C$= -5A
- Good Linearity of $h_{FE}$

## APPLICATIONS

- Designed for chopper regulator, switch and general purpose applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -70 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -50 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -6 | V |
| $I_C$ | Collector Current-Continuous | -12 | A |
| $I_{CM}$ | Collector Current-Peak | -20 | A |
| $I_B$ | Base Current-Continuous | -4 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 60 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.75 | 16.10 |
| C | 5.50 | 5.70 |
| D | 0.90 | 1.10 |
| F | 3.30 | 3.50 |
| G | 2.90 | 3.20 |
| H | 5.90 | 6.10 |
| J | 0.595 | 0.70 |
| K | 21.10 | 22.50 |
| L | 1.90 | 2.25 |
| N | 10.80 | 11.00 |
| Q | 4.90 | 5.10 |
| R | 3.75 | 3.95 |
| S | 3.20 | 3.60 |
| U | 9.90 | 10.10 |
| Y | 4.20 | 4.90 |
| Z | 1.90 | 2.10 |

# SPTECH Silicon PNP Power Transistor

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -25mA ; $I_B$= 0 | -50 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= -5A; $I_B$= -80mA | | | -0.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C$= -5A; $I_B$= -80mA | | | -1.2 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -70V ; $I_E$= 0 | | | -10 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -6V; $I_C$= 0 | | | -10 | μA |
| $h_{FE}$ | DC Current Gain | $I_C$= -5A ; $V_{CE}$= -1V | 50 | | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0 ; $V_{CB}$= -10V;f= 1.0MHz | | 400 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_E$= 1A ; $V_{CE}$= -12V | | 25 | | MHz |

Switching Times

| | | | | | | |
|---|---|---|---|---|---|---|
| $t_{on}$ | Turn-on Time | $I_C$= -5A , $R_L$= 4Ω , $I_{B1}$= -$I_{B2}$= -80mA,$V_{CC}$= −20V | | 0.5 | | μs |
| $t_{stg}$ | Storage Time | | | 0.6 | | μs |
| $t_f$ | Fall Time | | | 0.3 | | μs |