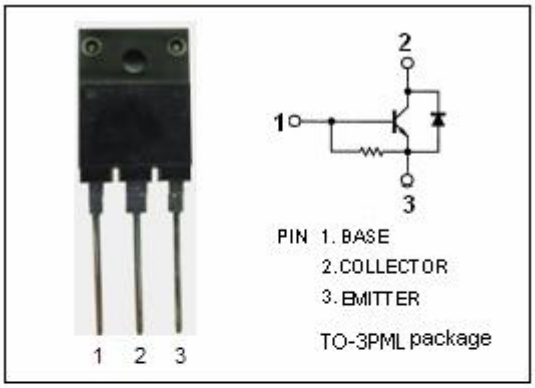
SPTECH Silicon NPN Power Transistor



DESCRIPTION

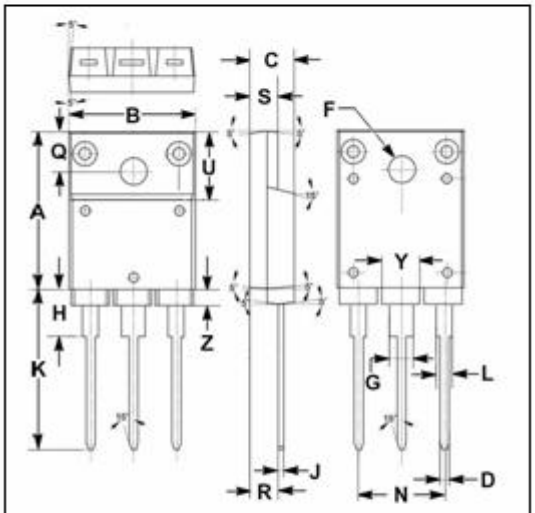
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 50V(Min)
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 0.5V(Max)@ I_C= 5A

APPLICATIONS

- Designed for DC-DC converter, emergency lighting inverter and general purpose applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	15	V
I_C	Collector Current-Continuous	15	A
I_{CP}	Collector Current-Peak	25	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 NPN 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}= 100V ; I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 15V ; I_C= 0			10	μA
h_{FE}	DC current gain	I_C= 5A ; V_{CE}= 1V	60		360	
f_T	Current-Gain—Bandwidth Product	I_E= -1A ; V_{CE}= 12V		18		MHz
C_{OB}	Output Capacitance	I_E=0 ; V_{CB}= 10V; f_{test}= 1.0MHz		210		pF
Switching times						
t_{on}	Turn-on Time	I_C= 5A , I_{B1}= 80mA; I_{B2}= 80mA R_L= 4Ω ; V_{CC}= 20V		0.5		μs
t_{stg}	Storage Time			2.0		μs
t_f	Fall Time			0.4		μs