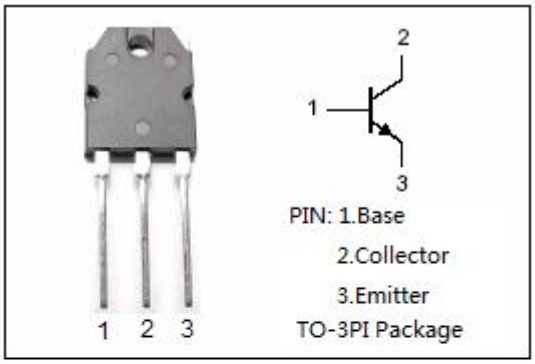
SPTECH Silicon NPN Power Transistor

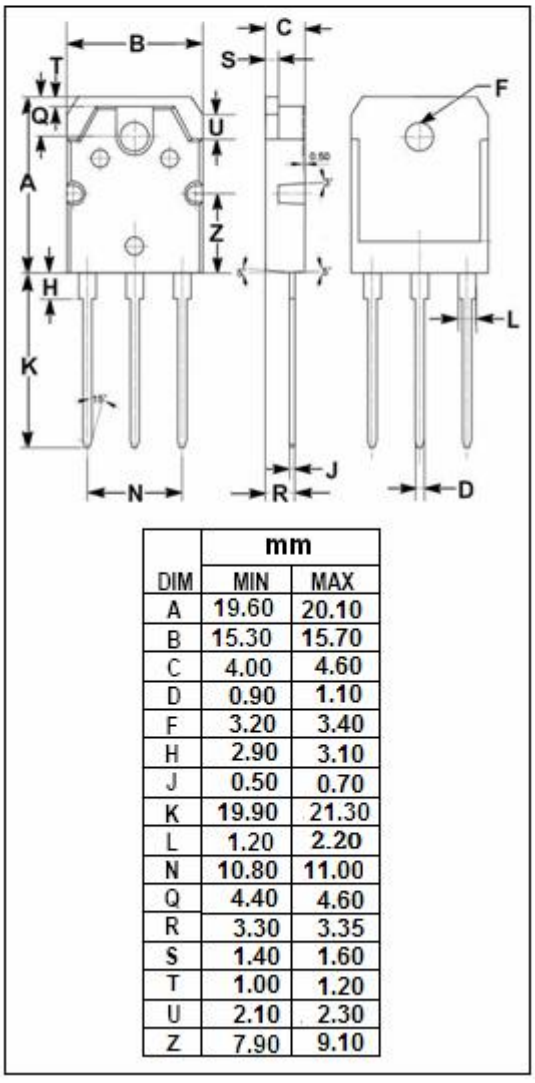


DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 50V (Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$= 0.4V (Max)@I_C= 6.0A
- High Collector Power Dissipation
  : P_C= 80W @T_C=25℃

APPLICATIONS

- High power switching applications
- DC-DC converter and DC-AC inverter applications



DIM	mm MIN	mm MAX
A	19.60	20.10
B	15.30	15.70
C	4.00	4.60
D	0.90	1.10
F	3.20	3.40
H	2.90	3.10
J	0.50	0.70
K	19.90	21.30
L	1.20	2.20
N	10.80	11.00
Q	4.40	4.60
R	3.30	3.35
S	1.40	1.60
T	1.00	1.20
U	2.10	2.30
Z	7.90	9.10

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	5	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current-Continuous	2.5	A
P_C	Collector Power Dissipation @ T_C=25℃	80	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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= 1mA ; I_B= 0	50			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 70V ; I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V ; I_C= 0			10	μA
h_{FE-1}	DC Current Gain	I_C= 1A ; V_{CE}= 1V	70		240	
h_{FE-2}	DC Current Gain	I_C= 6A ; V_{CE}= 1V	30			
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 4V		10		MHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V;f_{test}= 1.0MHz		350		pF

Switching times

t_{on}	Turn-on Time	I_C= 6A , I_{B1}= I_{B2}= 0.3A; R_L= 5Ω ;V_{CC}= 30V; P_W = 20μs;Duty Cycle≤1%		0.3		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			0.4		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240