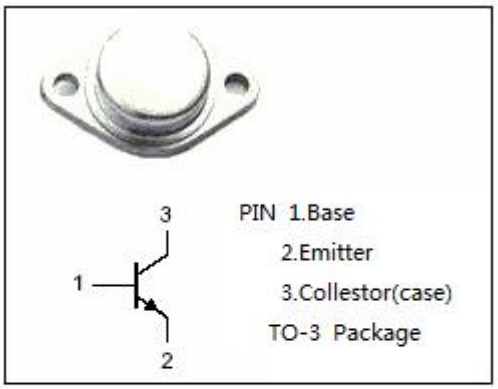
SPTECH Silicon NPN Power Transistor

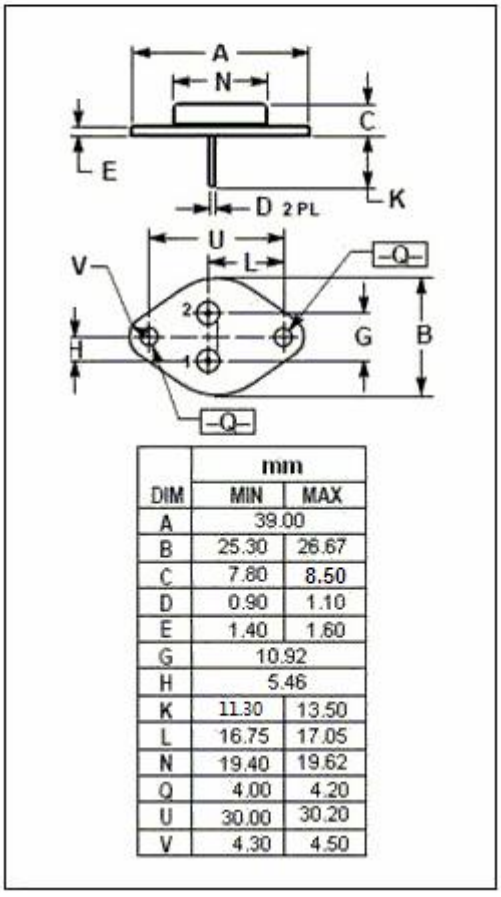
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 80V (Min)
- High Power Dissipation
- High Current Capability



APPLICATIONS

- High power amplifier applications.
- High Power switching applications.
- DC-DC converter applications.
- Regulator applications.



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	MAX	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	30	A
I_B	Base Current-Continuous	8	A
P_C	Collector Power Dissipation @T_C=25℃	200	W
T_j	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~175	℃

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= 10mA; I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 3A		0.6	1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A; I_B= 3A		1.4	2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			0.1	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 5V	60		200	
h_{FE-2}	DC Current Gain	I_C= 15A; V_{CE}= 5V	10			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}= 1.0MHz		400		pF
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 5V		1.5		MHz

Switching Times

t_{on}	Turn-on Time	V_{CC}= 50V, R_L= 10Ω, I_{B1}= I_{B2}= 0.5A		2.5		
t_{stg}	Storage Time			6.0		
t_f	Fall Time			1.5		