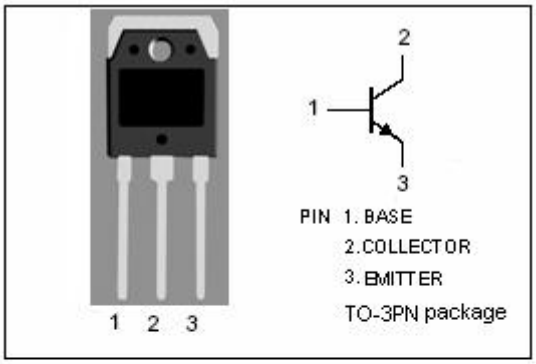
SPTECH Silicon NPN Power Transistor

DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 400V(Min)
- High Switching Speed
- High Reliability



APPLICATIONS

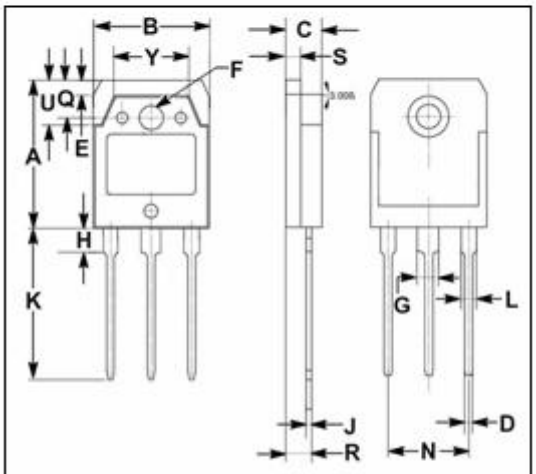
- Switching regulators
- Ultrasonic generators
- High frequency inverters
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	450	V
V_{CEO}	Collector-Emitter Voltage	400	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	10	A
I_B	Base Current-Continuous	3	A
P_C	Collector Power Dissipation @ T_C=25℃	80	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.17	℃/W



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

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	400			V
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA ; I_B= 0	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA ; I_E= 0	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 0.1mA ; I_C= 0	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			1.2	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 450V ; I_E=0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C=0			0.1	mA
h_{FE}	DC Current Gain	I_C= 4A ; V_{CE}= 5V	10			

Switching times

t_{on}	Turn-on Time	I_C= 7.5A , I_{B1}= -I_{B2}= 1.5A R_L= 20Ω ;P_W=20μs Duty Cycle≤2%			1.0	μs
t_{stg}	Storage Time				2.0	μs
t_f	Fall Time				1.0	μs