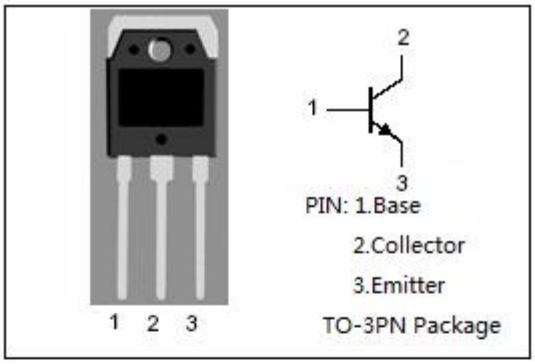
SPTECH Silicon NPN Power Transistor

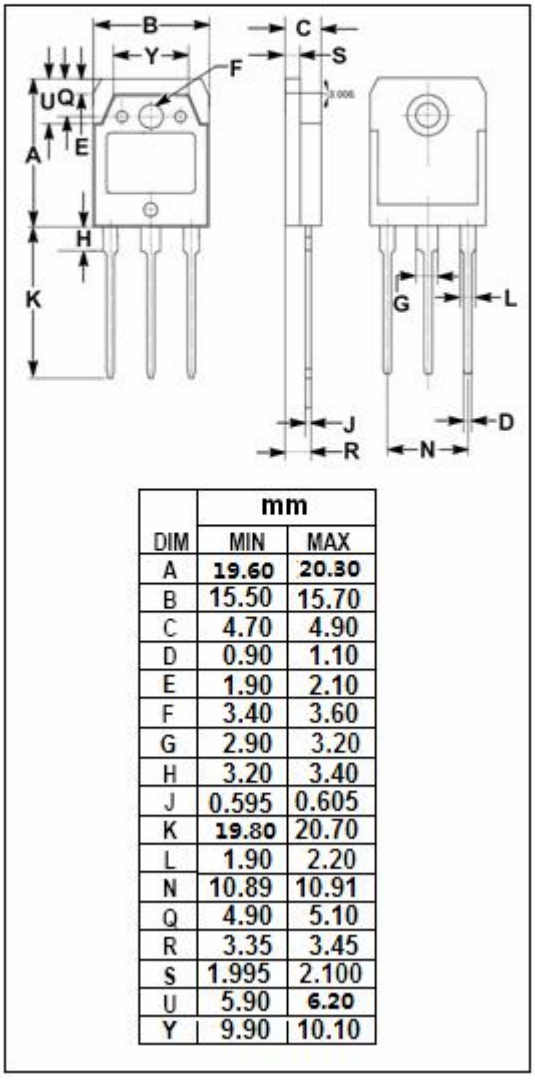


DESCRIPTION

- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 600V(Min)
- High Switching Speed
- High Reliability

APPLICATIONS

- Designed for switching regulator and general purpose applications.



DIM	mm MIN	MAX
A	19.60	20.30
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	19.80	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	6.20
Y	9.90	10.10

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	600	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	14	A
I_{CM}	Collector Current-Peak	28	A
I_B	Base Current-Continuous	7	A
P_C	Collector Power Dissipation @ T_C=25℃	130	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= 10mA ; I_B= 0	600			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 7A; I_B= 1.4A			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 7A; I_B= 1.4A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 800V ; I_E= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C= 0			0.1	mA
h_{FE}	DC Current Gain	I_C= 7A ; V_{CE}= 4V	10		25	
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V; f_{test}=1.0MHz		160		pF
f_T	Current-Gain—Bandwidth Product	I_E= -1.5A ; V_{CE}= 12V		6		MHz

Switching Times

t_{on}	Turn-on Time	I_C= 7A,I_{B1}= 1.05A; I_{B2}= -3.5A R_L= 35.7Ω ; V_{CC}= 250V			1.0	μs
t_{stg}	Storage Time				5.0	μs
t_f	Fall Time				0.7	μs