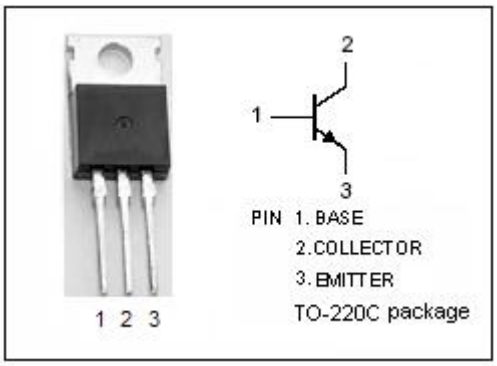
SPTECH Silicon NPN Power Transistor

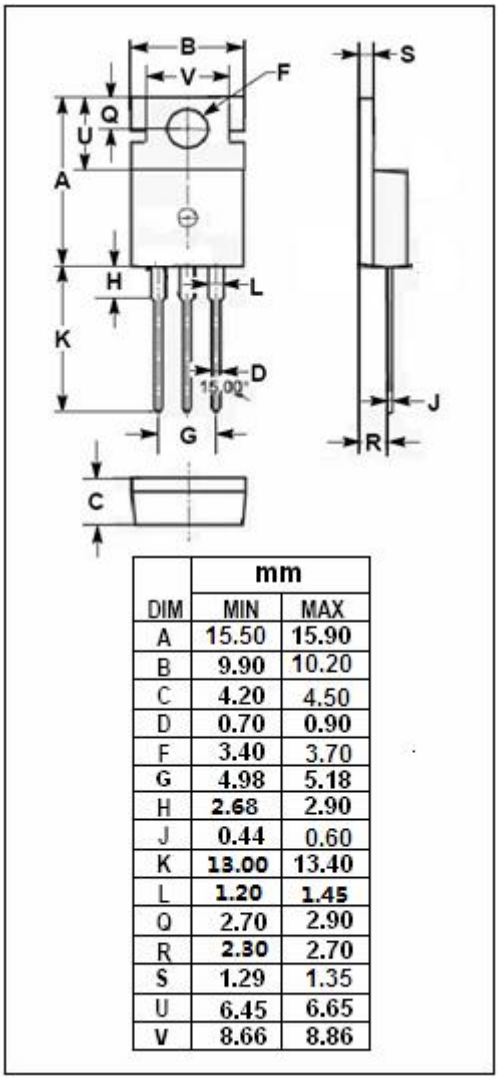


DESCRIPTION

- High Breakdown Voltage-
  : $V_{(BR)CBO}$= 900V(Min)
- Fast Switching Speed
- Wide Area of Safe Operation

APPLICATIONS

- Designed for switching regulator Applications



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.90	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	13.00	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	1.5	A
P_C	Collector Power Dissipation @ T_C=25℃	50	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= 5mA; R_{BE}= ∞	800			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	900			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA; I_C= 0	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 1.5A; I_B= 0.3A			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 1.5A; I_B= 0.3A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 800V; 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= 0.2A ; V_{CE}= 5V	10		40	
h_{FE-2}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	8			
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V; f_{test}=1.0MHz		60		pF
f_T	Current-Gain—Bandwidth Product	I_C= 0.2A ; V_{CE}= 10V		15		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 2A , I_{B1}= 0.4A; I_{B2}= -0.8A R_L= 200Ω ; V_{CC}=400V			1.0	μs
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time				0.7	μs

◆ h_{FE-1} Classifications

K	L	M
10-20	15-30	20-40