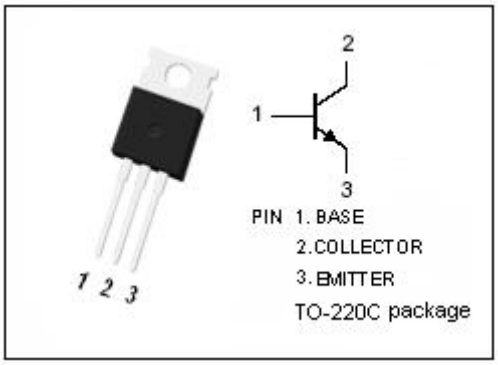
SPTECH Silicon NPN Power Transistor

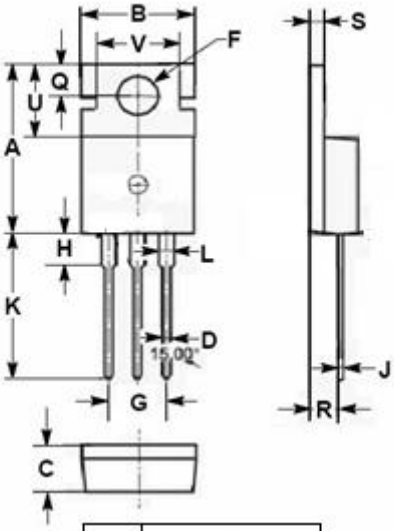


DESCRIPTION

- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= 0.5V(Max)@ I_C=3A
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 120V (Min)
- Good Linearity of h_{FE}

APPLICATIONS

- Designed for use in humidifier , DC/DC converter and general purpose applications



DIM	mm MIN	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	200	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Pulse	14	A
I_B	Base Current-Continuous	3	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= 50mA ; I_B= 0	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.3A			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.3A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 200V; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 8V; I_C= 0			100	μA
h_{FE}	DC Current Gain	I_C= 3A ; V_{CE}= 4V	70		220	
f_T	Current-Gain—Bandwidth Product	I_E= -0.5A ; V_{CE}= 12V	20			MHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V;f_{test}= 1.0MHz		110		pF
Switching times						
t_{on}	Turn-on Time	I_C= 3A ;I_{B1}=0.3A; I_{B2}= -0.6A R_L= 16.7Ω ; V_{CC}= 50V			0.5	μs
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time				0.5	μs

◆ h_{FE} Classifications

O	Y	G
70-120	100-200	160-220