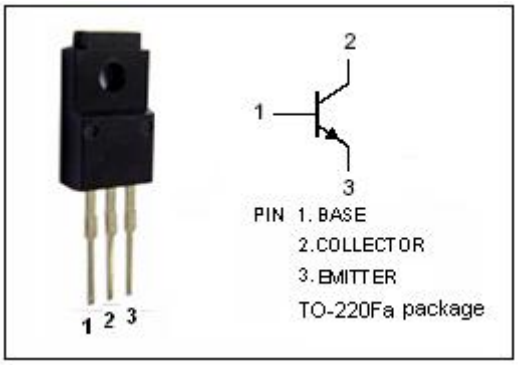
SPTECH Silicon NPN Power Transistor



DESCRIPTION

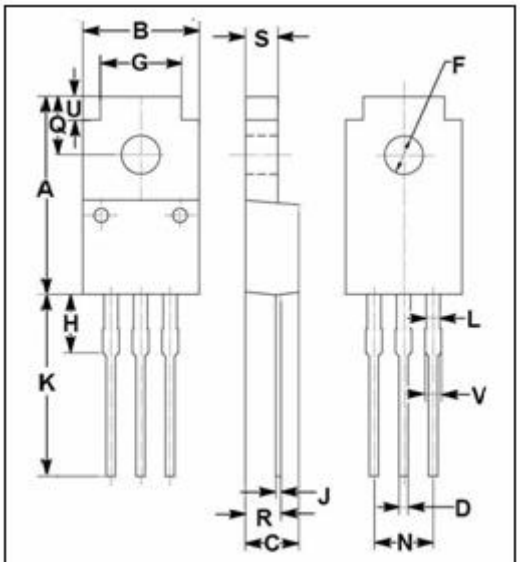
- Low Collector Saturation Voltage-
  : $V_{CE(sat)}$= 0.4V(Max)@I_C= 6A
- Good Linearity of h_{FE}
- Complement to Type 2SA1451

APPLICATIONS

- Designed for high current switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	12	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ T_C=25℃	30	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

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	50			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			1.2	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 60V; I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			10	μA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 1V	70		240	
h_{FE-2}	DC Current Gain	I_C= 6A; V_{CE}= 1V	40			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}= 1MHz		180		pF
f_T	Current-Gain—Bandwidth Product	I_C= 1A; V_{CE}= 5V		90		MHz

Switching Times

t_{on}	Turn-on Time	I_{B1}= -I_{B2}= 0.3A, R_L= 5Ω; V_{CC}≈ 30V,		0.2		μs
t_{stg}	Storage Time			1.0		μs
t_f	Fall Time			0.2		μs

◆ h_{FE-1} Classifications

O	Y
70-140	120-240