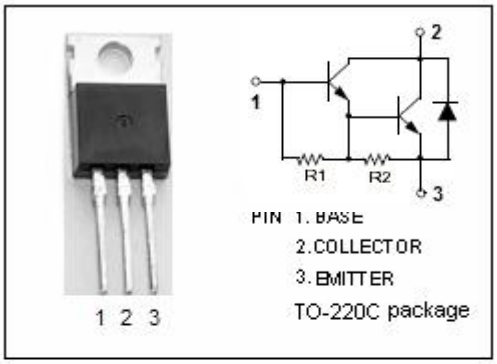
SPTECH Silicon NPN Darlington Power Transistor

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= 5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 100V(Min)
- Complement to Type TIP147T



APPLICATIONS

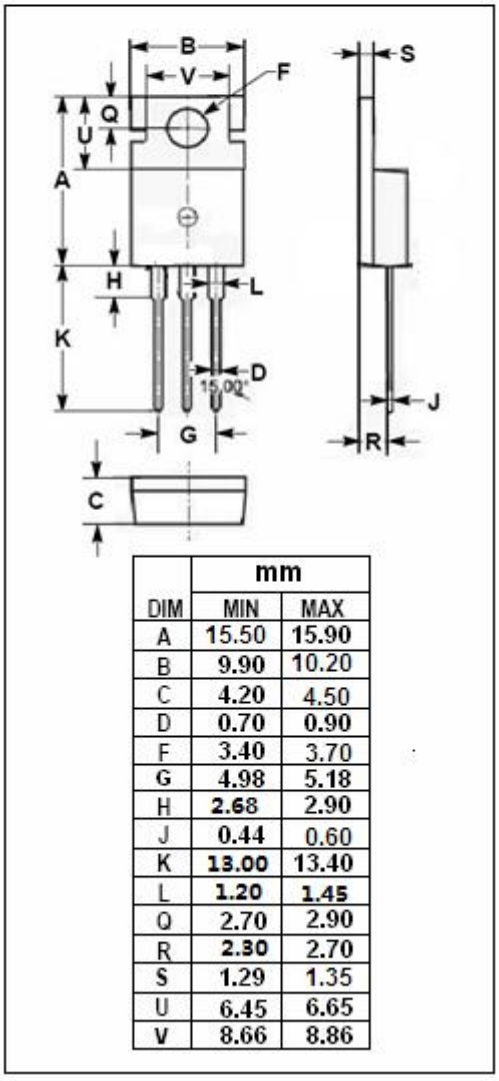
- Designed for general purpose amplifier and low speed switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	10	A
I_{CM}	Collector Current-Peak	15	A
I_B	Base Current- Continuous	0.5	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	1.56	℃/W



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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA, I_B= 0	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 5A ,I_B= 10mA			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A ,I_B= 40mA			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 10A ,I_B= 40mA			3.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 10A ; V_{CE}= 4V			3.0	V
I_{CBO}	Collector Cutoff current	V_{CB}= 100V, I_E= 0			1	mA
I_{CEO}	Collector Cutoff current	V_{CE}= 50V, I_B= 0			2	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			2	mA
h_{FE-1}	DC Current Gain	I_C= 5A ; V_{CE}= 4V	1000			
h_{FE-2}	DC Current Gain	I_C= 10A ; V_{CE}= 4V	500			

Switching Times

t_d	Delay Time	V_{CC} = 30 V, I_C = 5.0 A, I_{B1}= -I_{B2}= 20 mA; t_p= 20 μs Duty Cycle≤20%		0.15		μs
t_r	Rise Time			0.55		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			2.5		μs