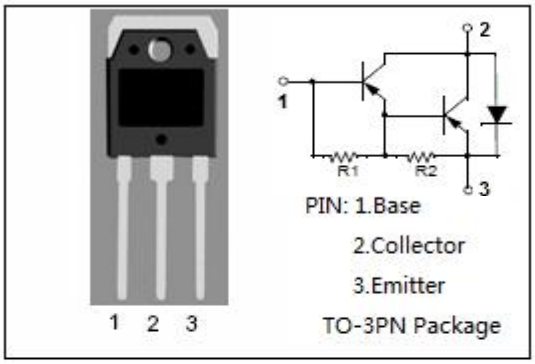
SPTECH Silicon PNP Darlington Power Transistor

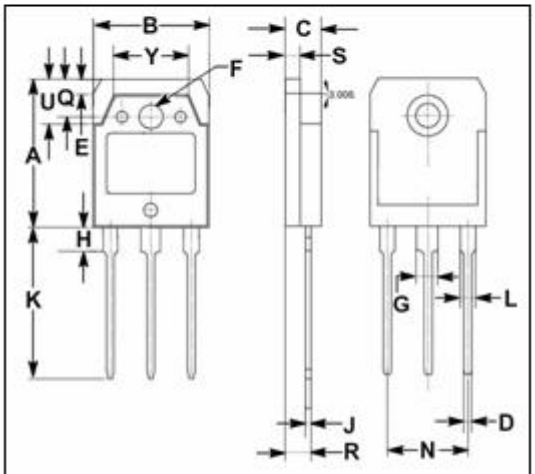
DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 1000(Min)@ I_C= -5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -100V(Min)
- Complement to Type TIP142

APPLICATIONS

- Designed for general purpose amplifier and low frequency switching 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	-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℃	125	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.0	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	35.7	℃/W

SPTECH Silicon PNP Darlington Power Transistor

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_B = -20 mA; Duty Cycle≤20% I_{B1} = I_{B2}, R_C & R_B Varied, T_J = 25℃		0.15		μs
t_r	Rise Time			0.55		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			2.5		μs