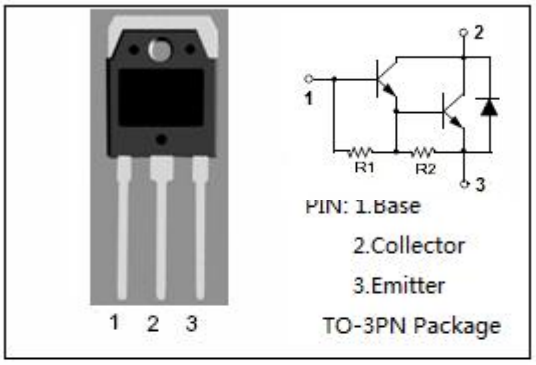
SPTECH Silicon NPN Darlington Power Transistor

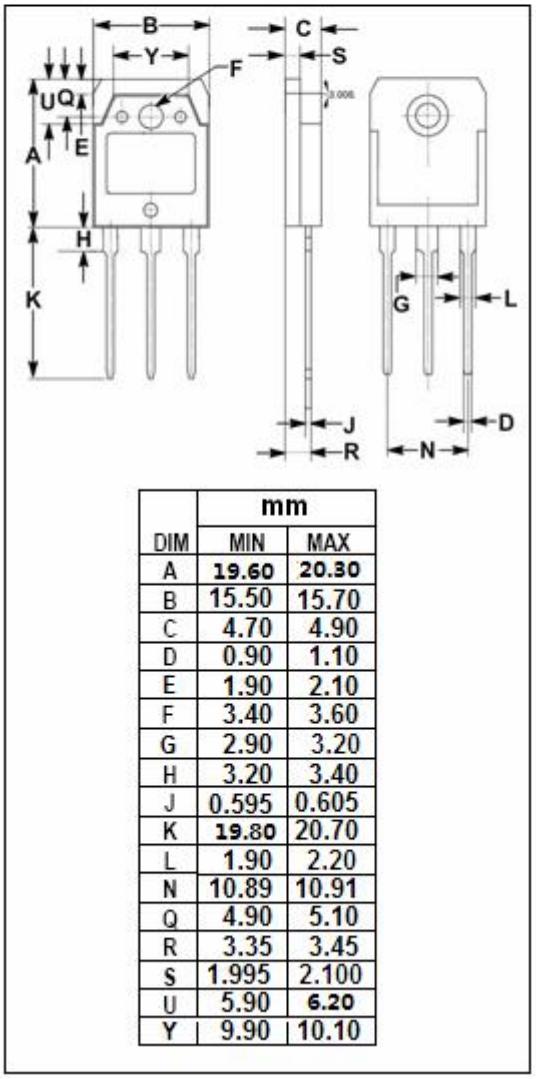


DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 320V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE\ (sat)}$= 2.9V(Max.)@ I_C= 10A

APPLICATIONS

- Designed for use in automotive ignition, switching and motor control 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	320	V
V_{CEO}	Collector-Emitter Voltage	320	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	1.0	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

SPTECH Silicon NPN Darlington Power Transistor

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 6.5A,I_B= 0.1A			2.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A, I_B= 1A			2.9	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 6.5A,I_B= 0.1A			2.2	V
I_{CEO}	Collector Cutoff current	V_{CE}= 320V, I_B= 0			1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			10	mA
h_{FE}	DC Current Gain	I_C= 4A; V_{CE}= 2.2V	200			
V_F	C-E Diode Forward Voltage	I_F= 10A			3.5	V
Switching Times						
t_d	Delay Time	V_{CC} = 33V, I_C = 6.5A, I_{B1} = -I_{B2}= 100mA; t_p= 20 μ s; Duty Cycle≤2%		0.3		μ s
t_r	Rise Time			1.5		μ s
t_{stg}	Storage Time			2.3		μ s
t_f	Fall Time			2.8		μ s