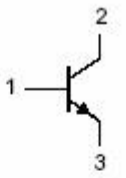
SPTECH Silicon NPN Power Transistor BUL310

DESCRIPTION

- Collector–Emitter Sustaining Voltage
  : $V_{CEO(SUS)}$ = 500V(Min.)
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$ = 0.5V(Max) @ I_C= 1A
- Very High Switching Speed



1 2 3



PIN 1. BASE
2.COLLECTOR
3. EMITTER
TO-220C package

APPLICATIONS

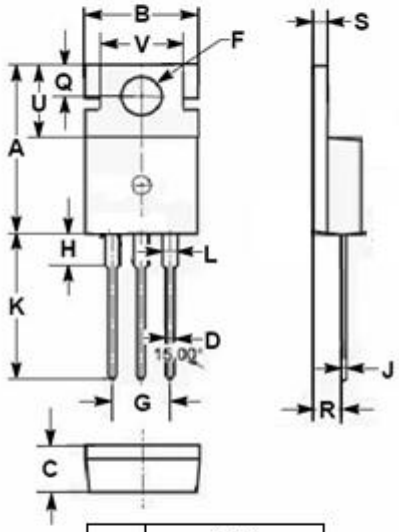
- Designed for use in lighting applications and low cost switch-mode power supplies.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-peak t_p<5ms	10	A
I_B	Base Current-Continuous	3	A
I_{BM}	Base Current-peak t_p<5ms	4	A
P_C	Collector Power Dissipation T_C=25℃	75	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	1.65	℃/W
$R_{th\ j\text{-}A}$	Thermal Resistance,Junction to Ambient	62.5	℃/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

SPTECH Silicon NPN Power Transistor BUL310

ELECTRICAL CHARACTERISTICS

T_C =25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 50mA; Ib=0	500			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 10mA; I_C= 0	9			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 1A; I_B= 0.2A			0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.4A			0.7	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.1	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 1A; I_B= 0.2A			1.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 0.4A			1.1	V
$V_{BE(sat)-3}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A			1.2	V
I_{CES}	Collector Cutoff Current	V_{CE}=900V; V_{BE}= 0 V_{CE}=900V; V_{BE}= 0, T_C= 125℃			0.1 0.5	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 400V; I_B= 0			0.25	mA
h_{FE-1}	DC Current Gain	I_C= 10mA; V_{CE}= 5V	10			
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 2.5V		10		
Switching Times, Inductive Load						
t_s	Storage Time	I_C= 2A; V_{CL}= 250V; L= 200 μH; I_{B1}= 0.4A; $V_{BE(off)}$= -5V; R_{BB}= 0 Ω			1.9	μs
t_f	Fall Time				0.16	μs