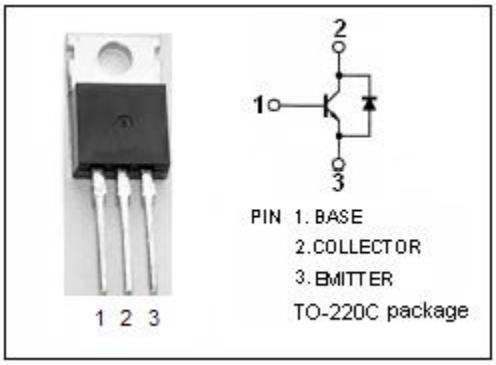
isc Silicon NPN Power Transistor — BUL38D

DESCRIPTION

- Collector–Emitter Sustaining Voltage
  : $V_{CEO(SUS)}$ = 450V(Min.)
- Collector Saturation Voltage
  : $V_{CE(sat)}$ = 0.5V(Max) @ I_C= 1.0A
- Very High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

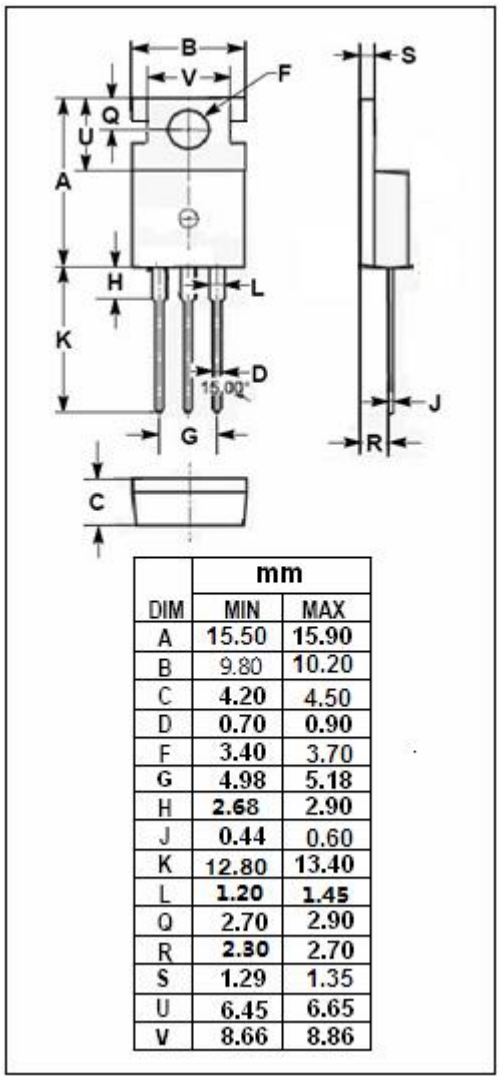
- Designed for use in lighting applications and low cost switch-mode power supplies

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	450	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	2	A
I_{BM}	Base Current-peak t_p<5ms	4	A
P_C	Collector Power Dissipation T_C=25℃	80	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	1.56	℃/W
$R_{th\ j\text{-}A}$	Thermal Resistance,Junction to Ambient	62.5	℃/W



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	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	12.80	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= 50mA; Ib=0	450			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= 4A; I_B= 0.75A			1.1	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 1A; I_B= 0.2A			1.1	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 0.4A			1.2	V
I_{CES}	Collector Cutoff Current	V_{CE}= 800V; V_{BE}= 0 V_{CE}= 800V; V_{BE}= 0, T_C= 125℃			0.1 0.5	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 450V; 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= 0.5A; V_{CE}= 5V			60	
h_{FE-3}	DC Current Gain	I_C= 2A; V_{CE}= 5V	13		32	
V_F	Diode Forward Voltage	I_F= 2A			1.5	V
Switching Times, Resistive Load						
t_s	Storage Time	I_C= 2.5A; I_{B1}= -I_{B2}= 0.5A; V_{CC}= 150V; t_p= 30 μ s			2.2	μ s
t_f	Fall Time				0.8	μ s

◆ **h_{FE-3} Classifications**

A	B
13-23	22-32

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