

isc Silicon NPN Power Transistor

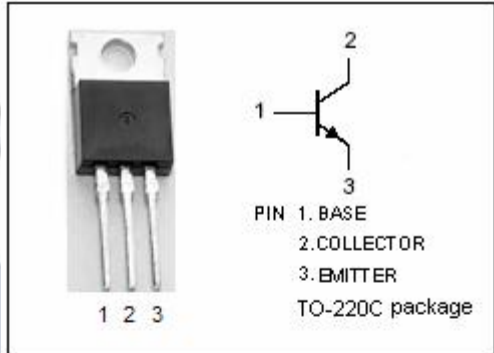
BUL57

DESCRIPTION

- Collector–Emitter Sustaining Voltage
: $V_{CEO(SUS)} = 400V(\text{Min.})$
- Collector Saturation Voltage
: $V_{CE(sat)} = 0.65V(\text{Max}) @ I_C = 2A$
- High Speed Switching

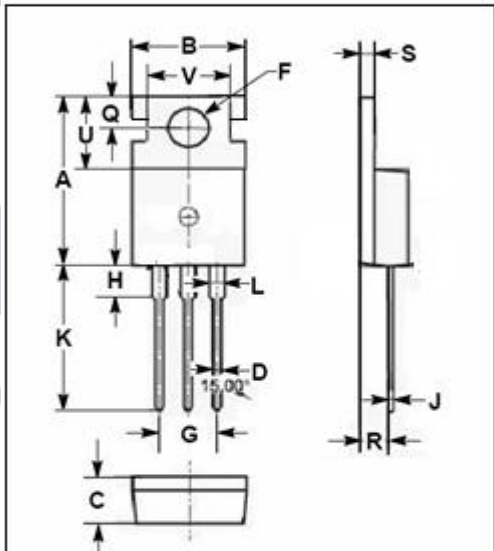
APPLICATIONS

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



ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CES}	Collector-Emitter Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-peak	16	A
I_B	Base Current-Continuous	4	A
I_{BM}	Base Current-Peak	7	A
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	85	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



DIM	mm	
	MIN	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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.5	$^\circ\text{C/W}$
$R_{th\ j-A}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS

 $T_C = 25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 10\text{mA}; I_B = 0$	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 0.4\text{A}$			0.65	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 3\text{A}; I_B = 0.6\text{A}$			0.75	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 0.8\text{A}$			1.2	V
$V_{CE(sat)-4}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}; I_B = 1\text{A}$			2.0	V
$V_{CE(sat)-5}$	Collector-Emitter Saturation Voltage	$I_C = 8\text{A}; I_B = 2\text{A}$		2.0		V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 0.4\text{A}$			1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 5\text{A}; I_B = 1\text{A}$			1.6	V
I_{CES}	Collector Cutoff Current	$V_{CE} = \text{Rated } V_{CE}; V_{BE} = 0$ $V_{CE} = \text{Rated } V_{CE}; V_{BE} = 0, T_C = 125^\circ\text{C}$			0.1 0.5	mA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = 400\text{V}$			250	μA
h_{FE-1}	DC Current Gain	$I_C = 2\text{A}; V_{CE} = 5\text{V}$	15		40	
h_{FE-2}	DC Current Gain	$I_C = 4\text{A}; V_{CE} = 5\text{V}$	6			
h_{FE-3}	DC Current Gain	$I_C = 10\text{mA}; V_{CE} = 5\text{V}$	8			