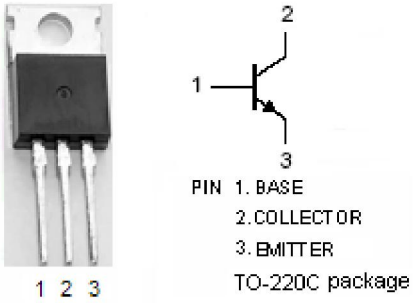
isc Silicon NPN Power Transistor BUL44

DESCRIPTION

- Collector–Emitter Sustaining Voltage
  : $V_{CEO(SUS)}$ = 400V(Min.)
- Collector Saturation Voltage
  : $V_{CE(sat)}$ = 0.6V(Max) @ I_C= 1.0A



APPLICATIONS

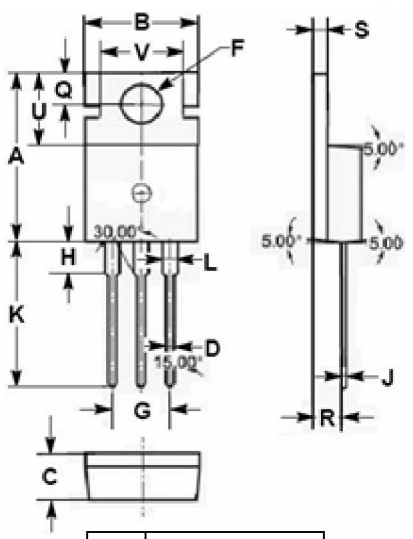
- Designed for use in 220V line operated switchmode power Supplies and electronic light ballasts.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	2	A
I_{CM}	Collector Current-peak	5	A
I_B	Base Current-Continuous	1	A
I_{BM}	Base Current-peak	2	A
P_C	Collector Power Dissipation T_C=25℃	50	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	2.5	℃/W
$R_{th\ j\text{-}A}$	Thermal Resistance,Junction to Ambient	62.5	℃/W



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
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= 100mA; L= 25mH	400			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 0.4A ;I_B= 40mA I_C= 0.4A ;I_B= 40mA,T_C= 125℃			0.5 0.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 1A ;I_B= 0.2A I_C= 1A ;I_B= 0.2A,T_C= 125℃			0.6 0.6	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 0.4A ;I_B= 40mA			1.1	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 1A ;I_B= 0.2A			1.25	V
I_{CEO}	Collector Cutoff Current	V_{CE}= RatedV_{CEO}; I_B= 0			0.1	mA
I_{CES}	Collector Cutoff Current	V_{CE}= RatedV_{CES};V_{EB}=0 V_{CE}= RatedV_{CES};V_{EB}=0,T_C= 125℃ V_{CE}= 500V;V_{EB}=0,T_C= 125℃			0.1 0.5 0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 9V; I_C= 0			0.1	mA
h_{FE-1}	DC Current Gain	I_C= 0.2 A; V_{CE}= 5V	14		34	
h_{FE-2}	DC Current Gain	I_C= 0.4A; V_{CE}= 1V	12			
h_{FE-3}	DC Current Gain	I_C= 1A; V_{CE}= 1V	8			
h_{FE-4}	DC Current Gain	I_C= 10mA; V_{CE}= 5V	10			
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 1MHz			60	pF
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 10V		13		MHz
Switching Times , Resistive Load						
t_{on}	Turn-On Time	I_C= 0.4A; V_{CC}= 300V; I_{B1}= 40mA;I_{B2}= 0.2A; t_p= 20μs; Duty Cycle≤10%			0.1	μs
t_{off}	Turn-Off Time				2.5	μs
t_d	Storage Time	I_C= 1A; V_{CC}= 300V; I_{B1}= 0.2A; I_{B2}= 0.5A; t_p= 20μs; Duty Cycle≤10%			0.15	μs
t_r	Fall Time				2.5	μs