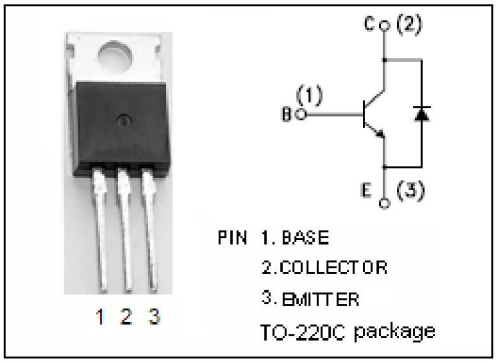
Silicon NPN Power Transistor BUL58D

DESCRIPTION

- High Voltage Capability
- High Speed Switching
- Integrated Antiparallel Collector-Emitter Diode



APPLICATIONS

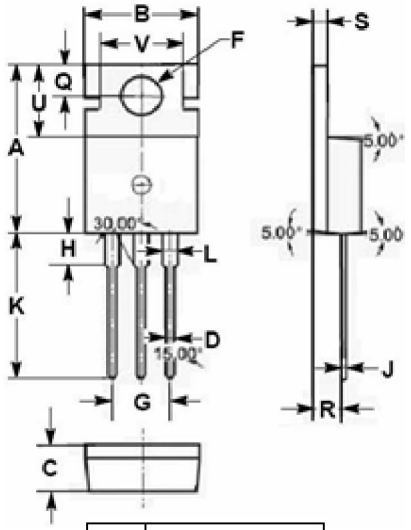
- Electronic ballasts for fluorescent lighting
- Electronic transformers for halogen lamps
- Switch mode power supply

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	8	A
I_{CM}	Collector Peak Current	16	A
I_B	Base Current	4	A
I_{BM}	Base Peak Current	8	A
P_C	Collector Power Dissipation @T_C=25℃	85	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.47	℃/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

Silicon NPN Power Transistor BUL58D

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= 25 mH	450			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_{EB}= 10mA; I_C=0	9			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 1 A			2	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.8A			1.3	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 1 A			1.5	V
I_{CES}	Collector Cutoff Current	V_{CE}= 800V; V_{BE} = 0 Tj=125℃			200 500	uA
I_{CEO}	Collector Emitter Current	V_{CE}= 450V; I_B= 0			200	uA
h_{FE-1}	DC Current Gain	I_C= 5A ; V_{CE}= 5V	5			
h_{FE-2}	DC Current Gain	I_C= 0.5A ; V_{CE}= 5V	10		40	
V_F	Diode Forward Voltage	I_F= 3A			3.0	V

Switching Times

t_s	Storage Time	I_C = 2 A ,I_{B1} = 0.4 A $V_{BE(off)}$ = -5 V, R_{BB} = 0 Ω V_{CL} = 250 V, L = 200 mH			1.8	μs
t_f	Fall Time				180	ns
t_s	Storage Time	I_C = 2 A; I_{B1} = 0.4 A $V_{BE(off)}$ = -5 V;R_{BB} = 0 Ω V_{CL} = 250 V; L = 200 mH Tj = 125℃		1.5		μs
t_f	Fall Time			180		ns