

Silicon NPN Power Transistors

BUL45

DESCRIPTION

- With TO-220C package
- Fast switching speed
- High voltage

APPLICATIONS

- Designed for use in electronic ballast and In switchmode power supplies

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

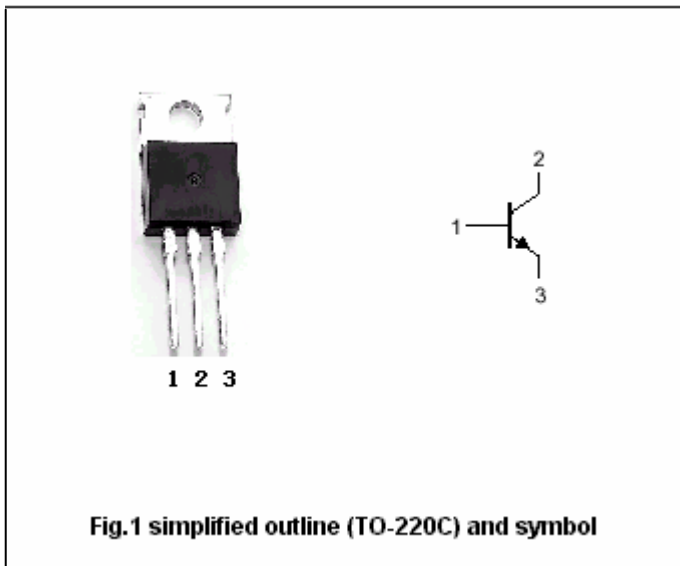


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings (Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	700	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	9	V
I_C	Collector current		5	A
I_{CM}	Collector current (peak)		10	A
I_B	Base current		2	A
P_{tot}	Total power dissipation	$T_C=25$	75	W
T_j	Max.operating junction temperature		150	
T_{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-case}$	Thermal resistance junction case	1.65	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.1 A ; I _B =0; L=25mH	400			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =1A ; I _B =0.2 A		0.175	0.25	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =2A ; I _B =0.4 A		0.25	0.4	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =1A ; I _B =0.2 A		0.84	1.2	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =2A ; I _B =0.4 A		0.89	1.25	V
I _{CEO}	Collector cut-off current	V _{CE} =RatedV _{CEO} ; I _B =0;			100	μ A
I _{CES}	Collector cut-off current	V _{CE} =RatedV _{CES} ; V _{EB} =0; T _C =125			10 100	μ A
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			0.1	mA
h _{FE-1}	DC current gain	I _C =0.3A; V _{CE} =5V	14		34	
h _{FE-2}	DC current gain	I _C =2A; V _{CE} =1V	7	14		
h _{FE-3}	DC current gain	I _C =10mA; V _{CE} =5V	10	22		
C _{OB}	Output capacitance	I _E =0; V _{CB} =10V; f=1MHz		50	75	pF
f _T	Transition frequency	I _C =0.5 A ; V _{CE} =10V		12		MHz

