

Silicon NPN Power Transistors

BUL510

DESCRIPTION

- With TO-220C package
- High voltage,high speed

APPLICATIONS

- Electronic ballasts for fluorescent lighting
- Switch mode power supplies
- Electronic transformer for halogen lamp

PINNING

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

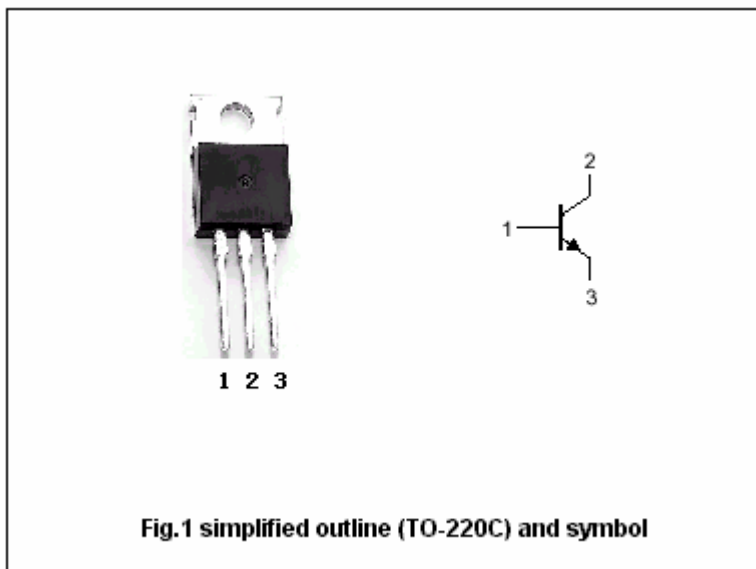


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1000	V
V_{CEO}	Collector-emitter voltage	Open base	450	V
V_{EBO}	Emitter-base voltage	Open collector	9	V
I_C	Collector current (DC)		10	A
I_{CM}	Collector current-Peak	$t_p < 5ms$	18	A
I_B	Base current (DC)		3.5	A
I_{BM}	Base current-Peak	$t_p < 5ms$	7	A
P_{tot}	Total power dissipation	$T_C = 25$	100	W
T_j	Maximum operating junction temperature		150	
T_{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-case}$	Thermal resistance junction to case	1.25	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =100mA ; I _B =0; L=25mH	450			V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10mA ; I _C =0	9			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3A ; I _B =0.6A			0.8	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =4A ; I _B =0.8A			1.0	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =5A ; I _B =1.25A			1.5	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =3A ; I _B =0.6A			1.2	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =5A ; I _B =1.25A			1.5	V
I _{CES}	Collector cut-off current	V _{CE} =1000V; V _{BE} =0 T _C =125			100 500	μ A
I _{CEO}	Collector cut-off current	V _{CE} =450V; I _B =0			250	μ A
h _{FE-1}	DC current gain	I _C =1A ; V _{CE} =5V	15		45	
h _{FE-2}	DC current gain	I _C =10mA ; V _{CE} =5V	10			

Switching times inductive load

t _s	Storage time	I _C =4A ; V _{CL} =300V I _{B1} =0.8A; I _{B2} =-1.6A L=200 μ H			3.4	μ s
t _f	Fall time				0.15	μ s

PACKAGE OUTLINE

