

Silicon NPN Power Transistors

MJE18008

DESCRIPTION

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

APPLICATIONS

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

PINNING

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

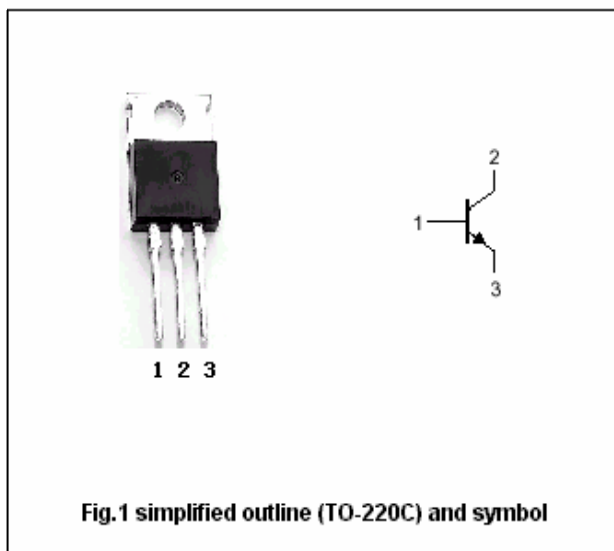


Fig.1 simplified outline (TO-220C) and symbol

ABSOLUTE MAXIMUM RATINGS(T_C=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		16	A
I _B	Base current		4	A
I _{BM}	Base current-Peak		8	A
P _D	Total power dissipation	T _C =25℃	125	W
T _j	Junction temperature		150	℃
T _{stg}	Storage temperature		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-C}	Thermal resistance junction to case	1.0	℃/W
R _{th j-A}	Thermal resistance junction to ambient	62.5	℃/W

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CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A; L=25mH	450			V
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =2A; I _B =0.2A T _C =125°C			0.6 0.65	V
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =4.5A; I _B =0.9A T _C =125°C			0.7 0.8	V
V _{BE(sat)-1}	Base-emitter saturation voltage	I _C =2A; I _B =0.2A			1.10	V
V _{BE(sat)-2}	Base-emitter saturation voltage	I _C =4.5A; I _B =0.9A			1.25	V
I _{CES}	Collector cut-off current	V _{CE} =RatedV _{CE} ; V _{EB} =0	T _C =125°C		0.1	mA
					0.5	
		V _{CE} =800V			0.1	
I _{CEO}	Collector cut-off current	V _{CE} =RatedV _{CEQ} ; I _B =0			0.1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			0.1	mA
h _{FE-1}	DC current gain	I _C =1A; V _{CE} =5V	14		34	
h _{FE-2}	DC current gain	I _C =4.5A; V _{CE} =1V	6			
h _{FE-3}	DC current gain	I _C =2A; V _{CE} =1V	11			
h _{FE-4}	DC current gain	I _C =10mA; V _{CE} =5V	10			
f _T	Transition frequency	I _C =0.5A; V _{CE} =10V; f=1MHz		13		MHz
C _{OB}	Collector output capacitance	I _E =0; V _{CB} =10V; f=1MHz		100		pF

Switching times resistive load, Duty Cycle≤10%, Pulse Width=20μs

t _{on}	Turn-on time	V _{CC} =300V, I _C =2A I _{B1} =0.2A; I _{B2} =1.0A			0.3	μs
t _{off}	Turn-off time				2.5	μs
t _{on}	Turn-on time	V _{CC} =300V, I _C =4.5A I _{B1} =0.9A; I _{B2} =2.25A			0.18	μs
t _{off}	Turn-off time				2.5	μs

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PACKAGE OUTLINE

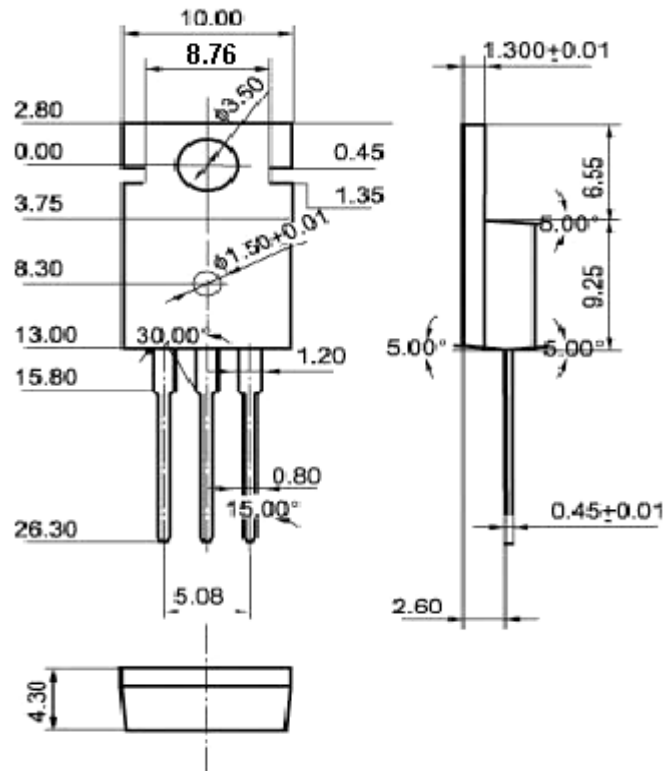


Fig.2 Outline dimensions (unindicated tolerance: 0.10mm)