

Silicon NPN Power Transistors

MJE16004

DESCRIPTION

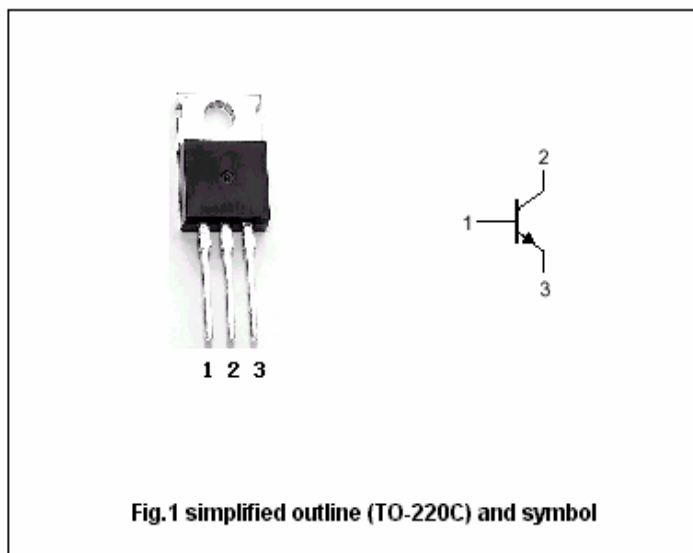
- With TO-220 package
- High voltage ,high speed

APPLICATIONS

- Switching regulators
- High resolution deflection circuits
- Inverters
- Motor drives

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	850	V
V_{CEO}	Collector-emitter voltage	Open base	450	V
V_{EBO}	Emitter-base voltage	Open collector	6	V
I_C	Collector current (DC)		5	A
I_{CM}	Collector current-Peak		10	A
I_B	Base current		4	A
I_{BM}	Base current-Peak		8	A
P_D	Total power dissipation	$T_C=25^\circ\text{C}$	80	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-C}$	Thermal resistance junction to case	1.56	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25°C unless otherwise specified

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SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =100mA; I _B =0	450			V
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =1.5A; I _B =0.15A			1.0	V
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =3A; I _B =0.3A T _C =100°C			2.5 2.5	V
V _{BE(sat)}	Base-emitter saturation voltage	I _C =3A; I _B =0.3A T _C =100°C			1.5 1.5	V
I _{CEV}	Collector cut-off current	V _{CEV} =850V; V _{BE} =1.5V T _C =100°C			0.25 1.5	mA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			1.0	mA
h _{FE}	DC current gain	I _C =5A; V _{CE} =5V	7			
C _{OB}	Collector outoput capacitance	I _E =0; V _{CB} =10V; f=1.0kHz			200	pF

Switching times resistive load, Duty Cycle≤2.0%, Pulse Width=30μs

t _d	Delay time	V _{CC} =250V, I _C =3A I _{B1} =0.3A; I _{B2} =0.6A			0.1	μs
t _r	Rise time				0.3	μs
t _s	Storage time				2.7	μs
t _f	Fall time				0.35	μs

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PACKAGE OUTLINE

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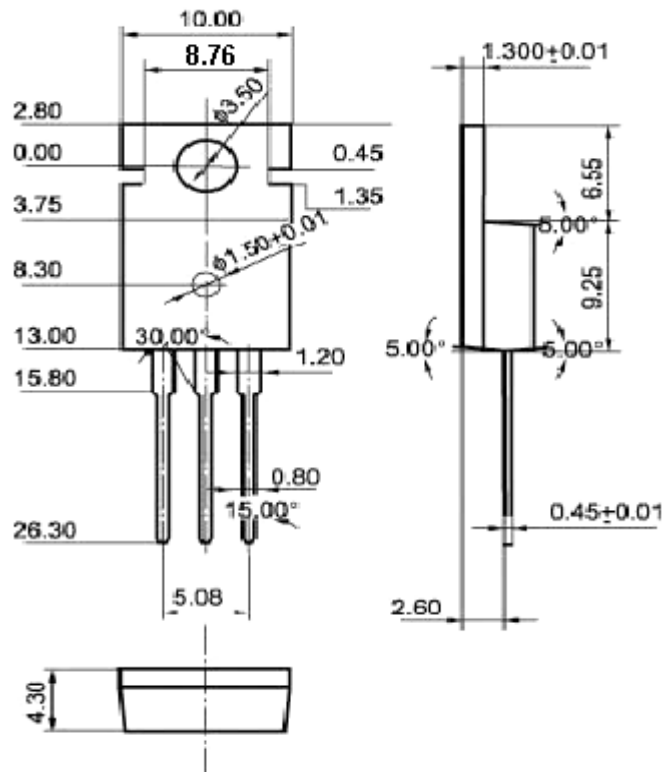


Fig.2 Outline dimensions (unindicated tolerance: 0.10mm)