

Silicon NPN Power Transistors

MJE12007

DESCRIPTION

- With TO-220 package
- High voltage
- Low saturation voltage

APPLICATIONS

Suited for line-operated switchmode applications such as:

- Fluorescent lamp ballasts
- Inverters
- Solenoid and relay drivers
- Motor controls
- Deflection circuits

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

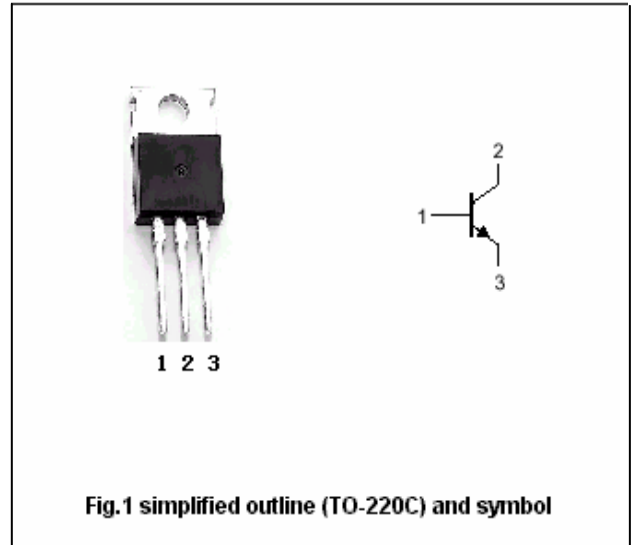


Fig.1 simplified outline (TO-220C) and symbol

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	1500	V
V_{CEO}	Collector-emitter voltage	Open base	750	V
V_{EBO}	Emitter-base voltage	Open collector	9	V
I_C	Collector current (DC)		2.5	A
I_{CM}	Collector current-Peak		5	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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =50mA; I _B =0	750			V
V _{CE(sat)-1}	Collector-emitter saturation voltage	I _C =1A; I _B =0.5A			1.0	V
V _{CE(sat)-2}	Collector-emitter saturation voltage	I _C =2A; I _B =1A			2.5	V
V _{BE(sat)-1}	Base-emitter saturation voltage	I _C =1A; I _B =0.5A			1.5	V
V _{BE(sat)-2}	Base-emitter saturation voltage	I _C =2A; I _B =1A			2.8	V
I _{CEV}	Collector cut-off current	V _{CEV} =RatedValue; V _{BE(off)} =-1.5V T _C =100°C			0.25 2.5	mA
I _{EBO}	Emitter cut-off current	V _{EB} =9V; I _C =0			0.25	mA
h _{FE-1}	DC current gain	I _C =1A; V _{CE} =5V	3			
h _{FE-2}	DC current gain	I _C =2A; V _{CE} =5V	2.5			

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PACKAGE OUTLINE

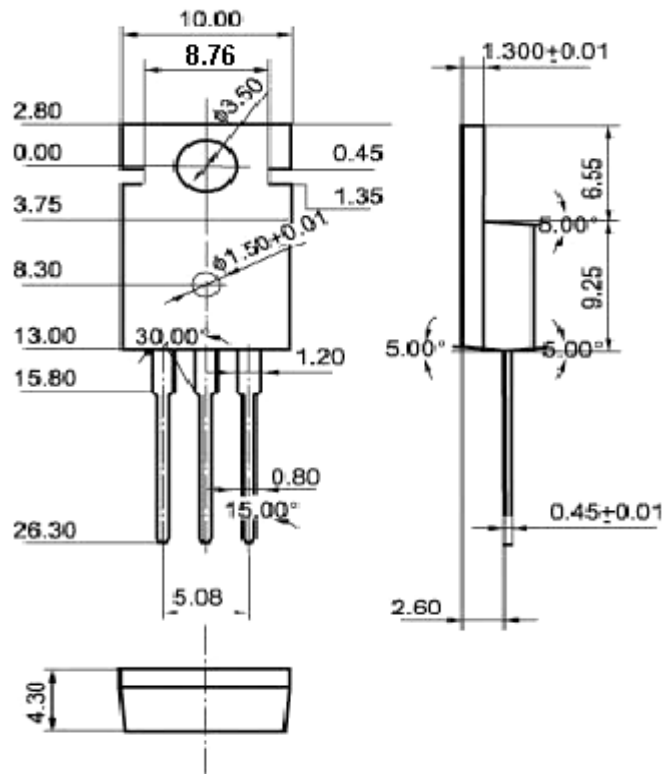


Fig.2 Outline dimensions (unindicated tolerance:±0.10mm)