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

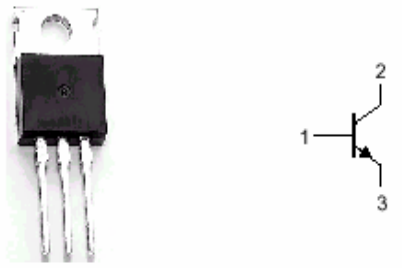

Fig.1 simplified outline (TO-220C) and symbol

ABSOLUTE MAXIMUM RATINGS(T_C=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	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□	80	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-65~150	□

THERMAL CHARACTERISTICS

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

CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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□			2.5 2.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=3A ;I_B=0.3A T_C=100□			1.5 1.5	V
I_{CEV}	Collector cut-off current	V_{CEV}=850V; V_{BE}=1.5V T_C=100□			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

PACKAGE OUTLINE

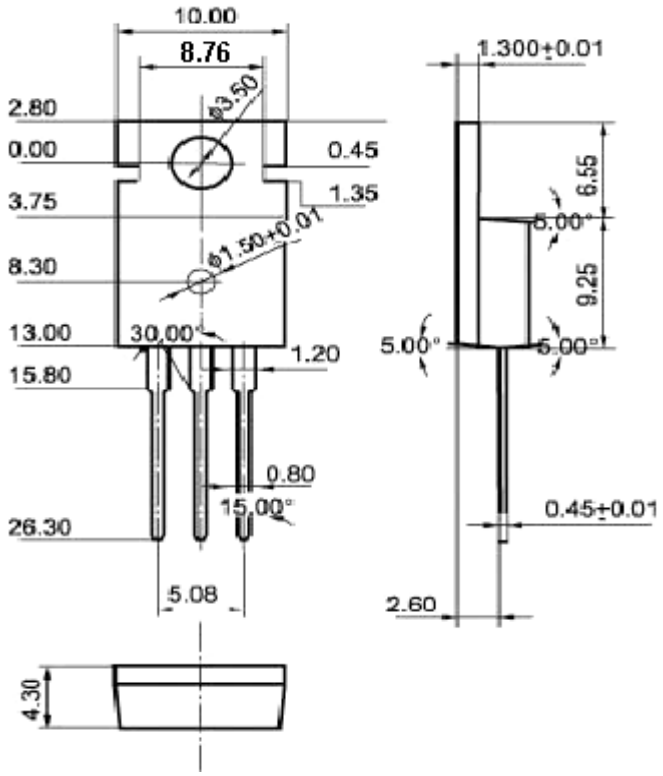

Fig.2 Outline dimensions (unindicated tolerance: 0.10mm)