

Silicon NPN Power Transistors

MJ16010

DESCRIPTION

- With TO-3 package
- High voltage ,high speed

APPLICATIONS

- Switching Regulators
- Inverters
- Solenoids
- Relay Drivers
- Motor Controls
- Deflection Circuits

PINNING (see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

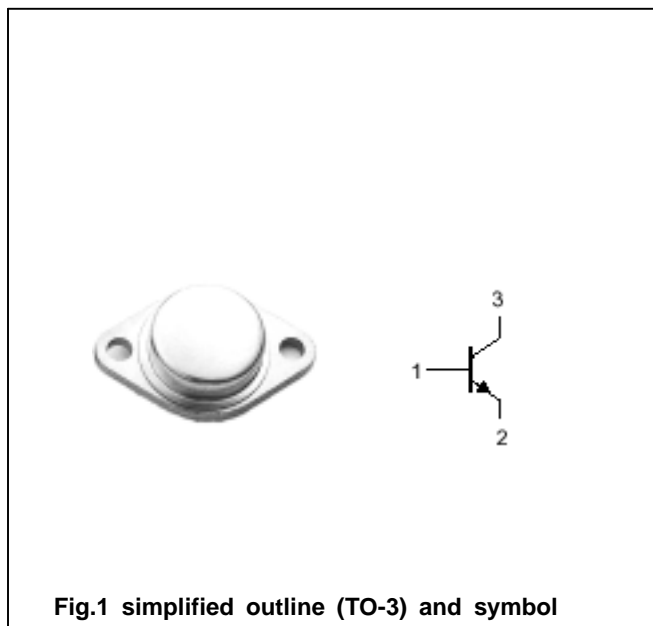


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings($T_a =$)

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		15	A
I_{CM}	Collector current-peak		20	A
I_B	Base current		10	A
I_{BM}	Base current-peak		15	A
P_D	Total Power Dissipation Derate above 25	$T_c=25$	175 1.0	W W/
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R_{th-j-c}	Thermal resistance junction to case	1.0	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE0(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A ; I _B =0	450			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =5A; I _B =0.7A			2.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =10A ; I _B =1.3A T _C =100			3.0 3.0	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =10A ; I _B =1.3A T _C =100			1.5 1.5	V
I _{CER}	Collector cut-off current	V _{CE} =850V; R _{BE} =50 ; T _C =100			2.5	mA
I _{CEV}	Collector cut-off current	V _{CE} =850V; V _{BE(off)} =1.5V T _C =100			0.25 1.5	mA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			10	mA
h _{FE}	DC current gain	I _C =15A ; V _{CE} =5V	5			
C _{OB}	Output capacitance	V _{CB} =10V, I _E =0; f=1.0KHz			400	pF

Switching times resistive load

t _d	Delay time	I _C =10A ; V _{CC} =250V I _{B1} =1.3A ; I _{B2} =2.6A PW=30 μ s; R _{B2} =1.6 Duty Cycle 2.0%		20		ns
t _r	Rise time			200		ns
t _s	Storage time			1200		ns
t _f	Fall time			200		ns

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PACKAGE OUTLINE

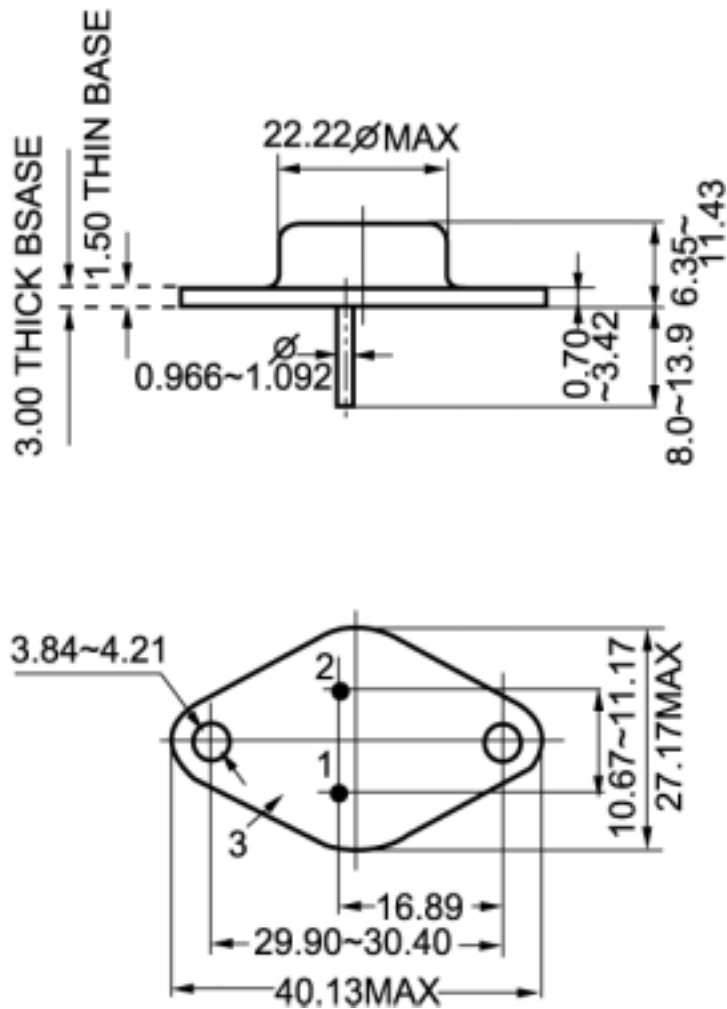


Fig.2 outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)