

Silicon PNP Power Transistors

MJ15016

DESCRIPTION

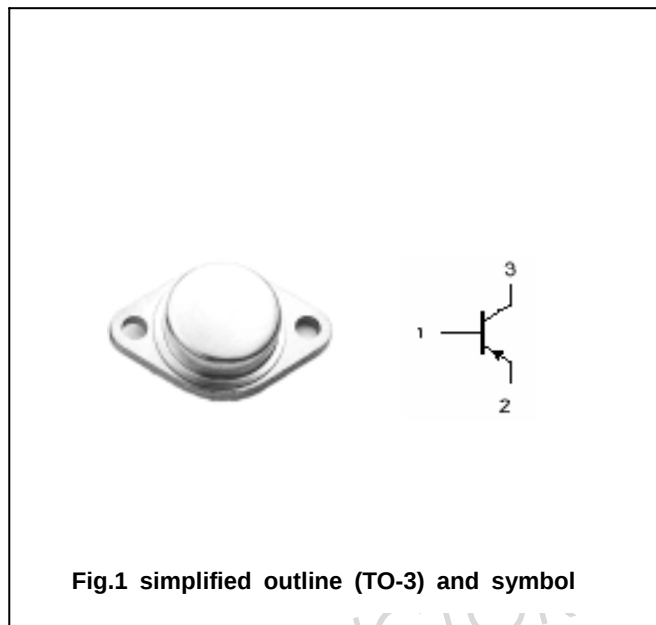
- With TO-3 package
- Complement to type MJ15015
- Excellent safe operating area

APPLICATIONS

- For high power audio ,stepping motor and other linear applications
- Relay or solenoid drivers
- DC-DC converters inverters

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

Absolute maximum ratings($T_a =$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-200	V
V_{CEO}	Collector-emitter voltage	Open base	-120	V
V_{EBO}	Emitter-base voltage	Open collector	-7	V
I_C	Collector current		-15	A
I_B	Base current		-7	A
P_C	Collector power dissipation	$T_C = 25$	180	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-65~200	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	0.98	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =-0.2A ; I _B =0	-120			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =-4A ; I _B =-0.4A			-1.1	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =-10A ; I _B =-3.3A			-3.0	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =-15A ; I _B =-7.0A			-5.0	V
V _{BE}	Base-emitter on voltage	I _C =-4A ; V _{CE} =-4V			-1.8	V
I _{CEO}	Collector cut-off current	V _{CE} =-60V ; V _{BE(off)} =0			-0.1	mA
I _{CEV}	Collector cut-off current	V _{CE} =Rated Value ; V _{BE(off)} =1.5V T _C =150			-1.0 -6.0	mA
I _{EBO}	Emitter cut-off current	V _{EB} =-7V ; I _C =0			-0.2	mA
h _{FE-1}	DC current gain	I _C =-4A ; V _{CE} =-2V	10		70	
h _{FE-2}	DC current gain	I _C =-4A ; V _{CE} =-4V	20		70	
h _{FE-3}	DC current gain	I _C =-10A ; V _{CE} =-4V	5			
I _{s/b}	Second breakdown collector current With base forward biased	V _{CE} =-60Vdc, t=0.5 s, Nonrepetitive	-3.0			A
C _{OB}	Output capacitance	I _E =0 ; V _{CB} =-10V ; f=1.0MHz	60		600	pF
f _T	Transition frequency	I _C =-1A ; V _{CE} =-4V ; f=1.0MHz	2.2			MHz

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PACKAGE OUTLINE

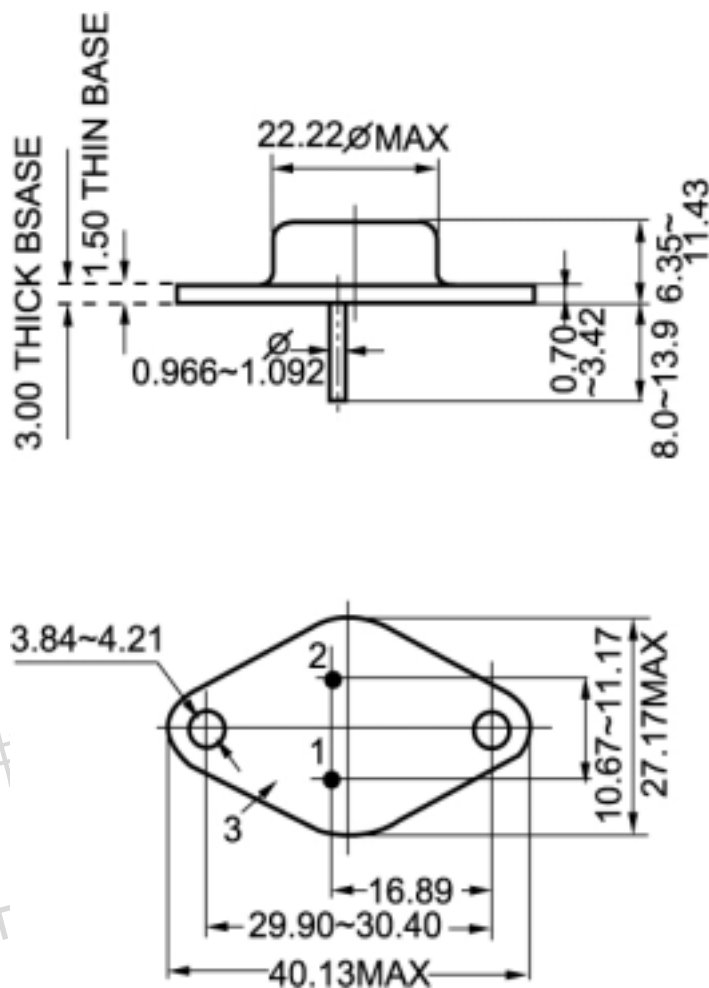


Fig.2 outline dimensions (unindicated tolerance: $\pm 0.1\text{mm}$)

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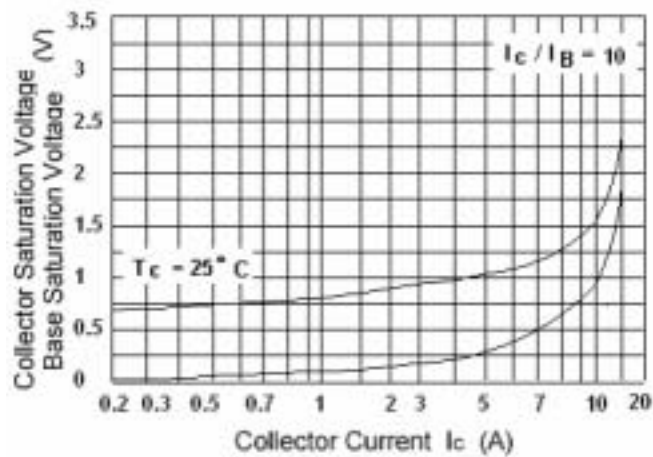


Fig.3 Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

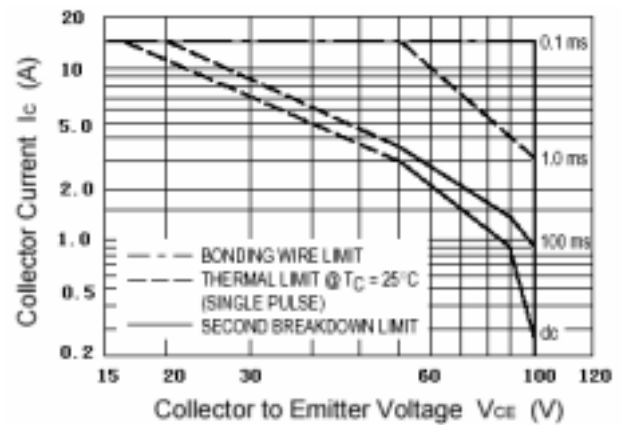


Fig.4 Safe Operating Area

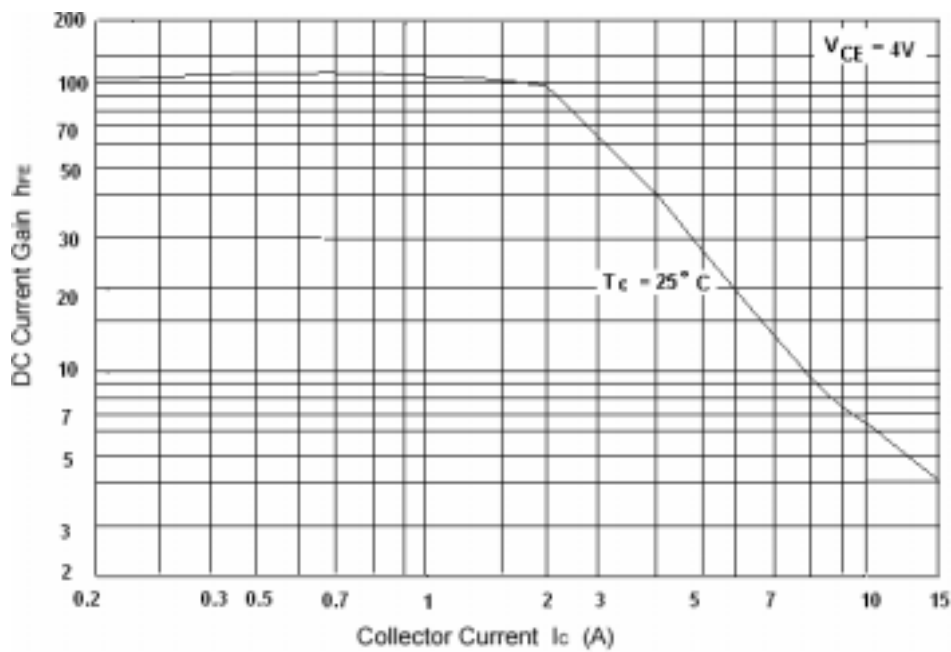


Fig.5 DC current Gain