

## 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

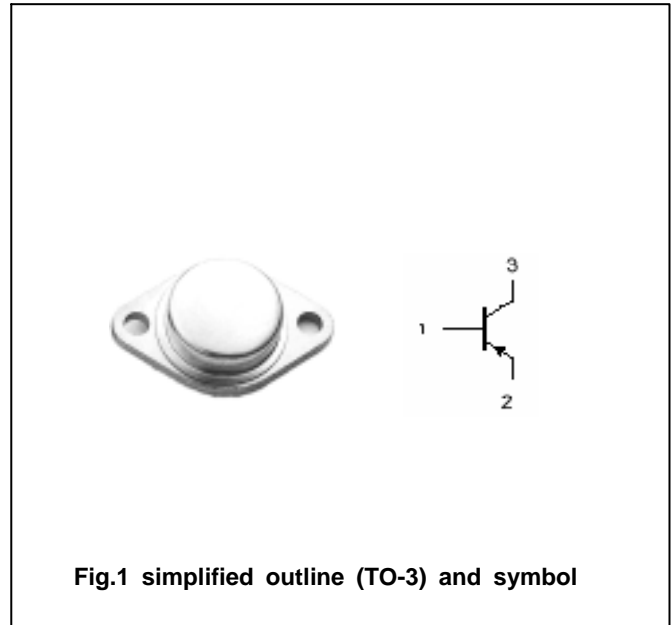


Fig.1 simplified outline (TO-3) and symbol

## Absolute maximum ratings(Ta= )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	-200	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	-120	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	-7	V
I <sub>C</sub>	Collector current		-15	A
I <sub>B</sub>	Base current		-7	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25	180	W
T <sub>j</sub>	Junction temperature		150	
T <sub>stg</sub>	Storage temperature		-65~200	

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal resistance junction to case	0.98	/W

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

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

PACKAGE OUTLINE

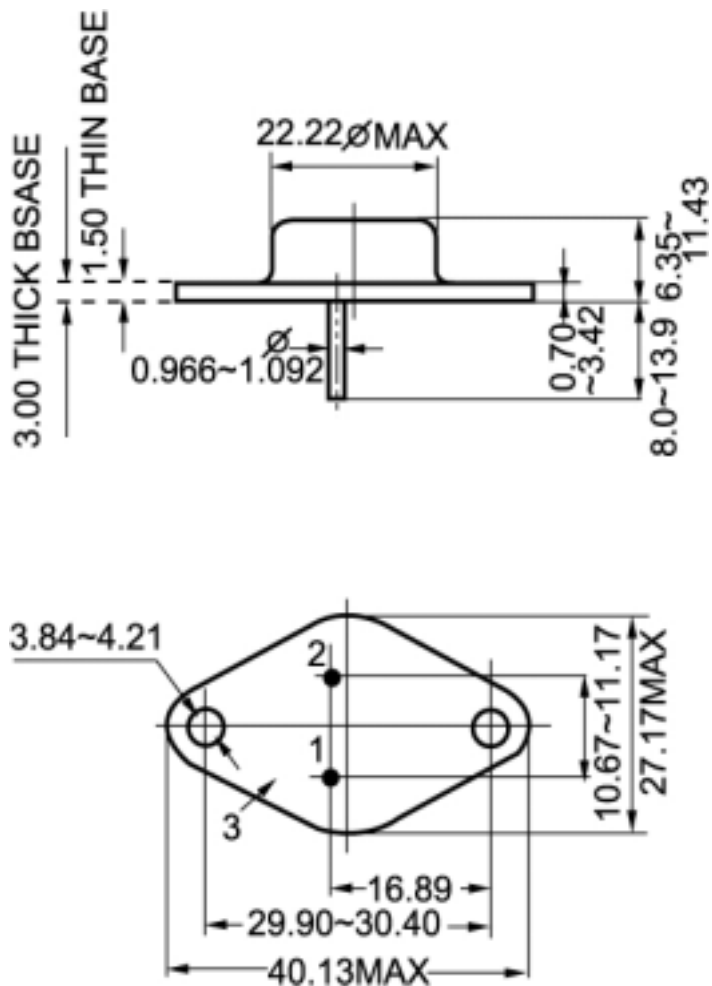


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1\text{mm}$ )

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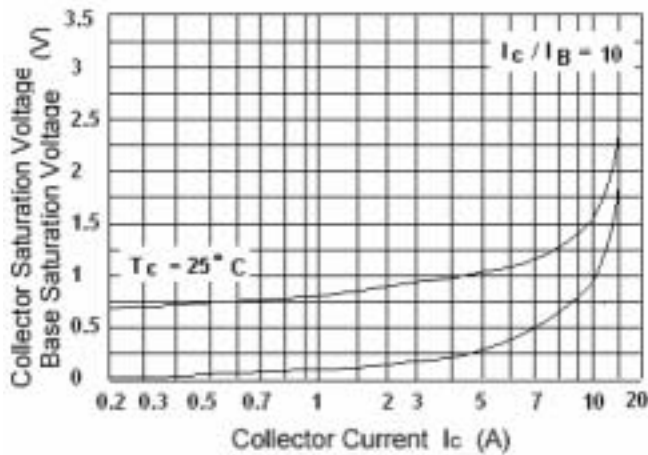


Fig.3 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

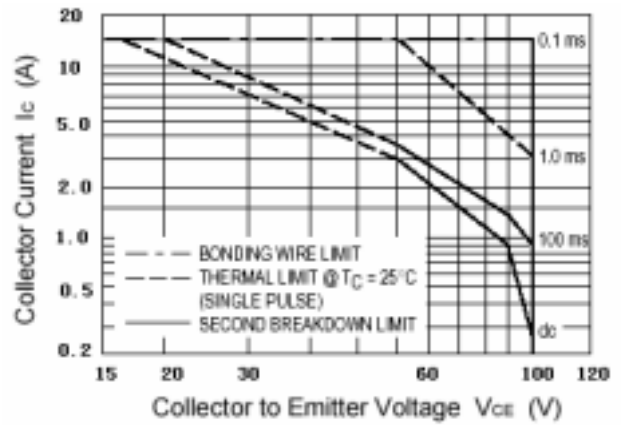


Fig.4 Safe Operating Area

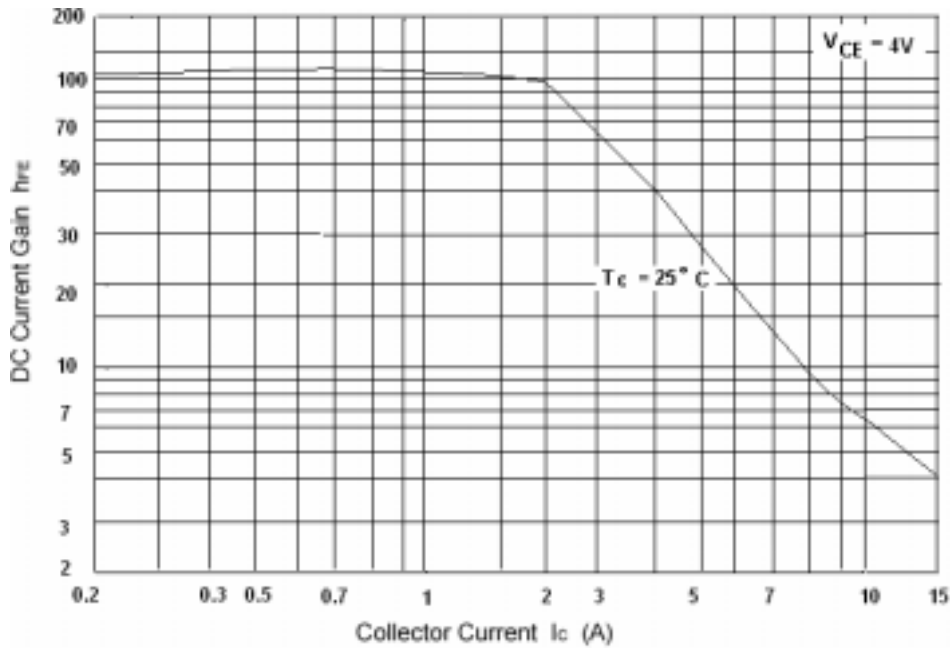


Fig.5 DC current Gain