

Silicon PNP Power Transistors

MJ15023 MJ15025

DESCRIPTION

- With TO-3 package
- Complement to type MJ15022; MJ15024
- Excellent safe operating area
- High DC current gain
 $h_{FE} = 15 \text{ (Min) @ } I_C = 8 \text{ A dc}$

APPLICATIONS

- Designed for high power audio, disk head positioners and other linear applications

PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

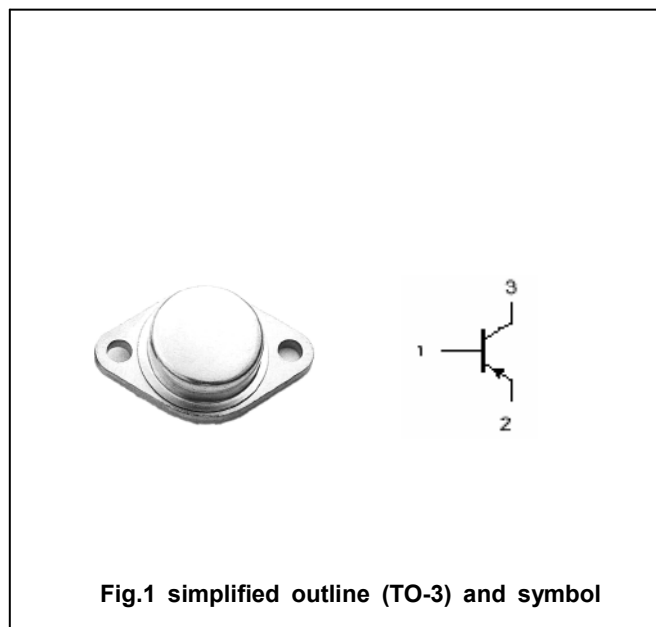


Fig.1 simplified outline (TO-3) and symbol

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

SYMBOL	PARAMETER		CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	MJ15023	Open emitter	-350	V
		MJ15025		-400	
V_{CEO}	Collector-emitter voltage	MJ15023	Open base	-200	V
		MJ15025		-250	
V_{EBO}	Emitter-base voltage		Open collector	-5	V
I_C	Collector current			-16	A
I_{CM}	Collector current-peak			-30	A
I_B	Base current			-5	A
P_D	Total power dissipation		$T_C=25^\circ\text{C}$	250	W
T_j	Junction temperature			150	$^\circ\text{C}$
T_{stg}	Storage temperature			-65~200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal resistance junction to case	0.70	$^\circ\text{C/W}$

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CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-emitter sustaining voltage	MJ15023	$I_C = -0.1A ; I_B = 0$	-200			V
		MJ15025		-250			
$V_{CE(sat)-1}$	Collector-emitter saturation voltage		$I_C = -8A ; I_B = -0.8A$			-1.4	V
$V_{CE(sat)-2}$	Collector-emitter saturation voltage		$I_C = -16A ; I_B = -3.2A$			-4.0	V
V_{BE}	Base-emitter on voltage		$I_C = -8A ; V_{CE} = -4V$			-2.2	V
I_{CEO}	Collector cut-off current	MJ15023	$V_{CE} = -150V ; I_B = 0$			-0.5	mA
		MJ15025	$V_{CE} = -200V ; I_B = 0$				
I_{CEX}	Collector cut-off current	MJ15023	$V_{CE} = -200V ; V_{BE(off)} = -1.5V$			-0.25	mA
		MJ15025	$V_{CE} = -250V ; V_{BE(off)} = -1.5V$				
I_{EBO}	Emitter cut-off current		$V_{EB} = -5V ; I_C = 0$			-0.5	mA
h_{FE-1}	DC current gain		$I_C = -8A ; V_{CE} = -4V$	15		60	
h_{FE-2}	DC current gain		$I_C = -16A ; V_{CE} = -4V$	5			
$I_{s/b}$	Second breakdown collector current with base forward biased		$V_{CE} = -50Vdc, t = 0.5s$, $V_{CE} = -80Vdc, t = 0.5s$, Nonrepetitive	-5.0 -2.0			A
C_{OB}	Output capacitance		$I_E = 0 ; V_{CB} = -10V ; f = 1.0MHz$			600	pF
f_T	Transition frequency		$I_C = -1A ; V_{CE} = -10V ; f = 1.0MHz$	4			MHz

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PACKAGE OUTLINE

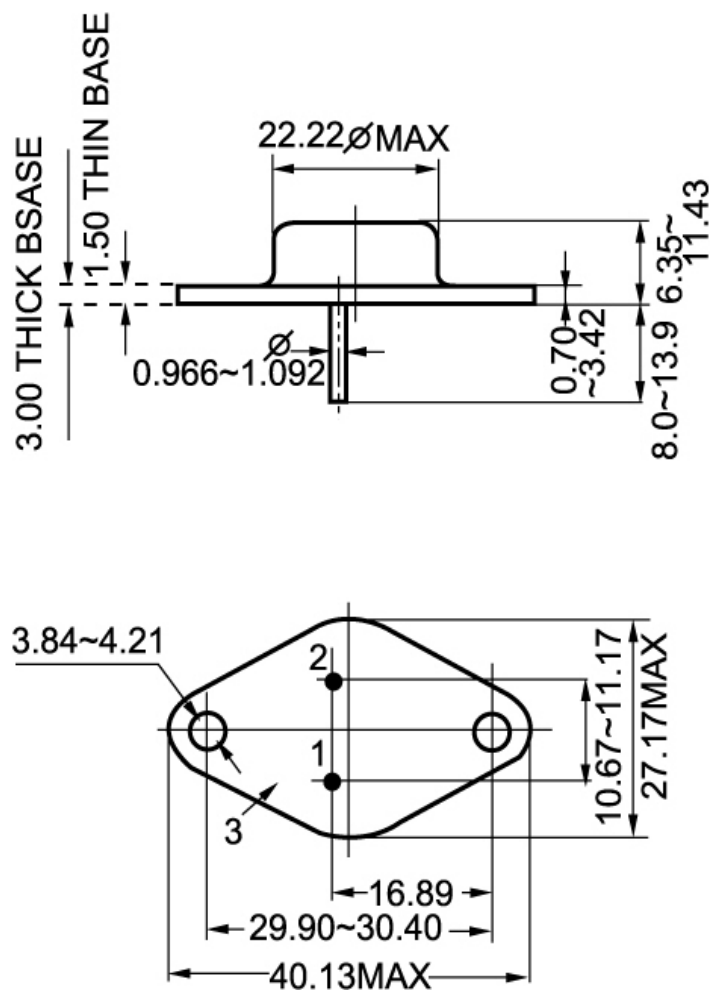


Fig.2 outline dimensions (unindicated tolerance:±0.1mm)