

**Silicon NPN Power Transistors**

**MJE15028**

**DESCRIPTION**

- With TO-220C package
- Complement to type MJE15029
- High transition frequency
- DC current gain specified to 4.0 Amperes  
 $h_{FE} = 40$  (Min) @  $I_C = 3.0$  Adc  
 $h_{FE} = 20$  (Min) @  $I_C = 4.0$  Adc

**APPLICATIONS**

- Designed for use as high-frequency drivers in audio amplifiers.

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

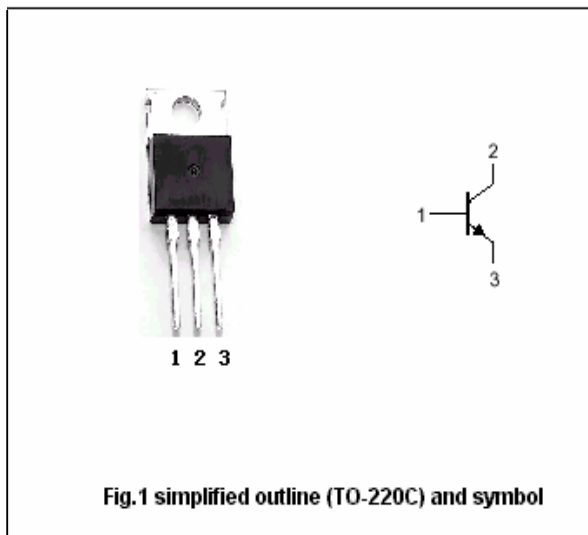


Fig.1 simplified outline (TO-220C) and symbol

**Absolute maximum ratings (Tc=25 )**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	120	V
$V_{CEO}$	Collector-emitter voltage	Open base	120	V
$V_{EBO}$	Emitter-base voltage	Open collector	5	V
$I_C$	Collector current (DC)		8	A
$I_{CM}$	Collector current-Peak		16	A
$I_B$	Base current		2	A
$P_D$	Total power dissipation	$T_a=25$	2	W
		$T_c=25$	50	
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-65~150	

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th-j-c}$	Thermal resistance ; junction to case	2.5	/W
$R_{th-j-a}$	Thermal resistance , junction to ambient	62.5	/W

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	I <sub>C</sub> =10mA I <sub>B</sub> =0	120			V
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =1A I <sub>B</sub> =0.1A			0.5	V
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =1A ; V <sub>CE</sub> =2V			1.0	V
I <sub>CBO</sub>	Collector cut-off current	V <sub>CB</sub> =120V; I <sub>E</sub> =0			10	μ A
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =120V; I <sub>B</sub> =0			0.1	mA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =5V; I <sub>C</sub> =0			10	μ A
h <sub>FE-1</sub>	DC current gain	I <sub>C</sub> =0.1A ; V <sub>CE</sub> =2V	40			
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =2A ; V <sub>CE</sub> =2V	40			
h <sub>FE-3</sub>	DC current gain	I <sub>C</sub> =3A ; V <sub>CE</sub> =2V	40			
h <sub>FE-4</sub>	DC current gain	I <sub>C</sub> =4A ; V <sub>CE</sub> =2V	20			
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =0.5A;V <sub>CE</sub> =10V;f=10MHz	30			MHz

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PACKAGE OUTLINE

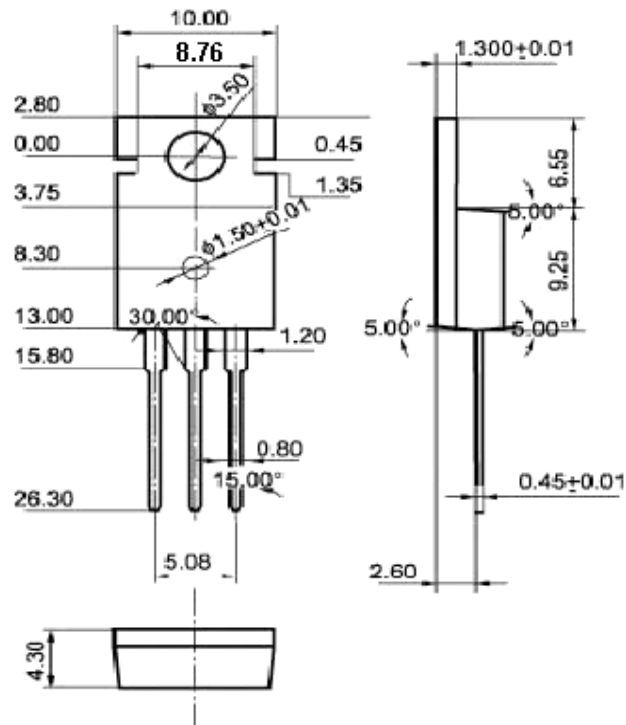


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10\text{mm}$ )

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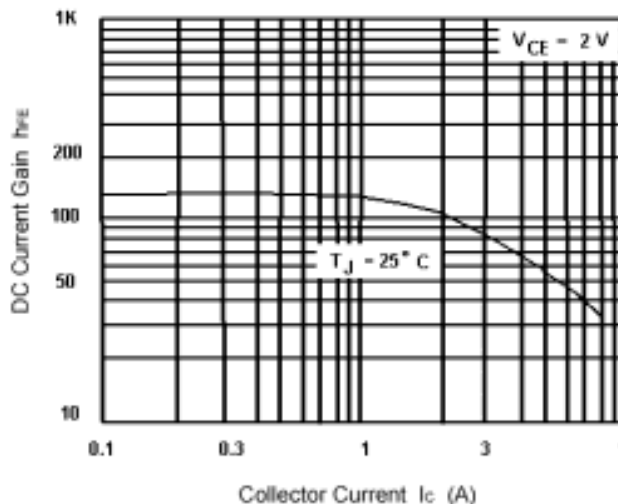


Fig.3 DC current Gain

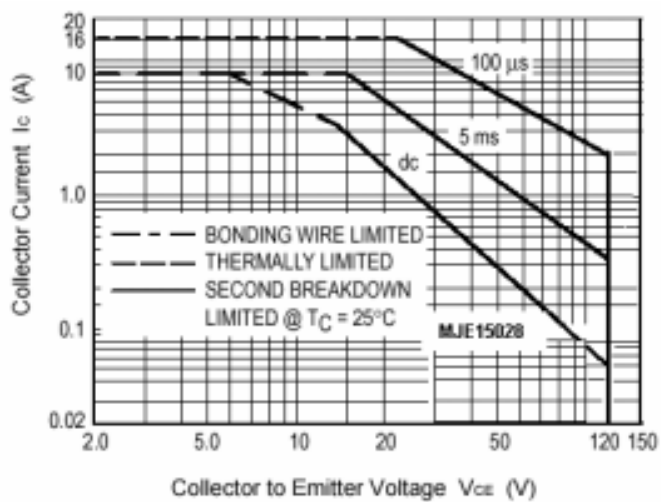


Fig.4 Safe Operating Area

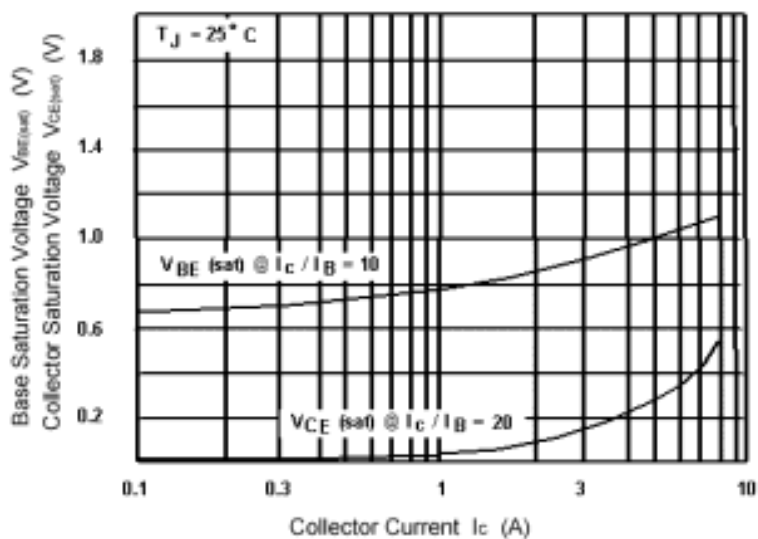


Fig.5 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage