

## Silicon NPN Power Transistors

## MJE15030

## DESCRIPTION

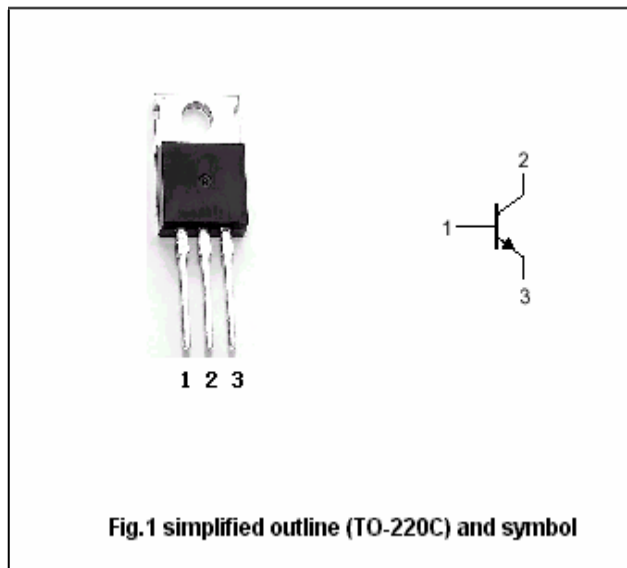
- With TO-220C package
- Complement to type MJE15031
- High transition frequency
- DC current gain specified to 4.0 amperes
  - $h_{FE} = 40$  (Min) @  $I_C = 3.0$  Adc
  - $h_{FE} = 20$  (Min) @  $I_C = 4.0$  Adc

## APPLICATIONS

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

## PINNING

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



## Absolute maximum ratings (Tc=25°C)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	Open emitter	150	V
$V_{CEO}$	Collector-emitter voltage	Open base	150	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	$T_a=25^\circ\text{C}$	2	W
		$T_c=25^\circ\text{C}$	50	
$T_j$	Junction temperature		150	°C
$T_{stg}$	Storage temperature		-65~150	°C

## THERMAL CHARACTERISTICS

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

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T<sub>j</sub>=25°C 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	150			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> =150V; I <sub>E</sub> =0			10	μA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =150V; 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	μA
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

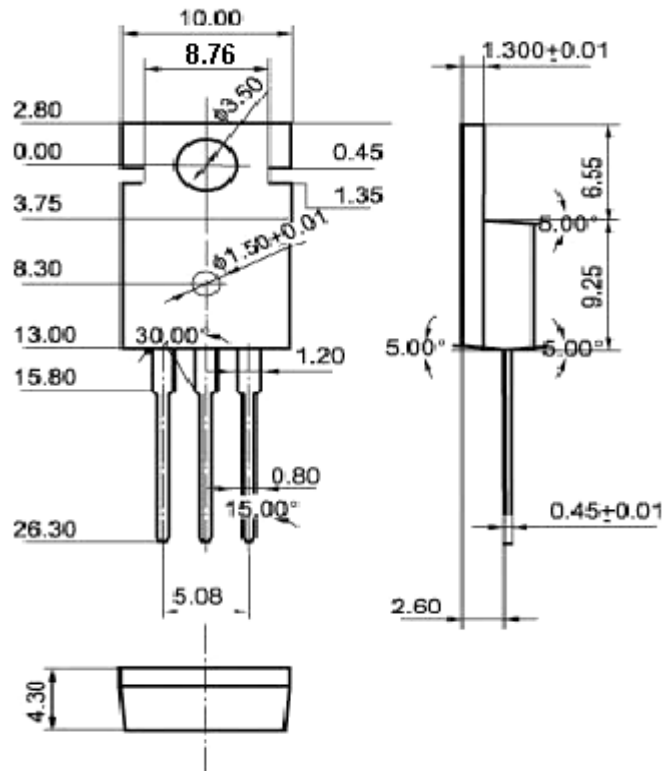


Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.10$ mm)

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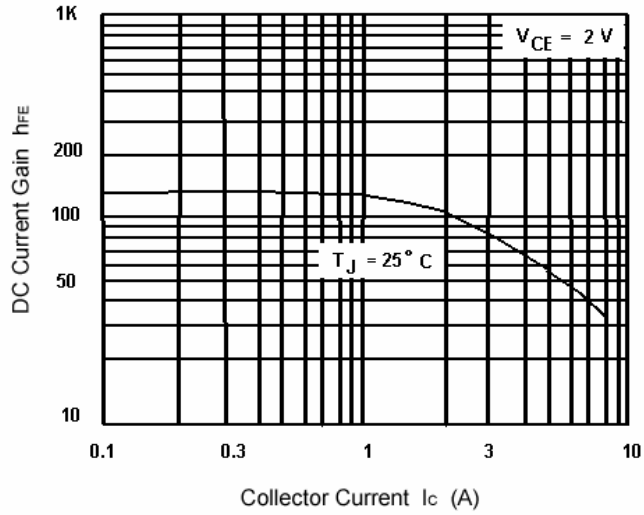


Fig.3 DC current Gain

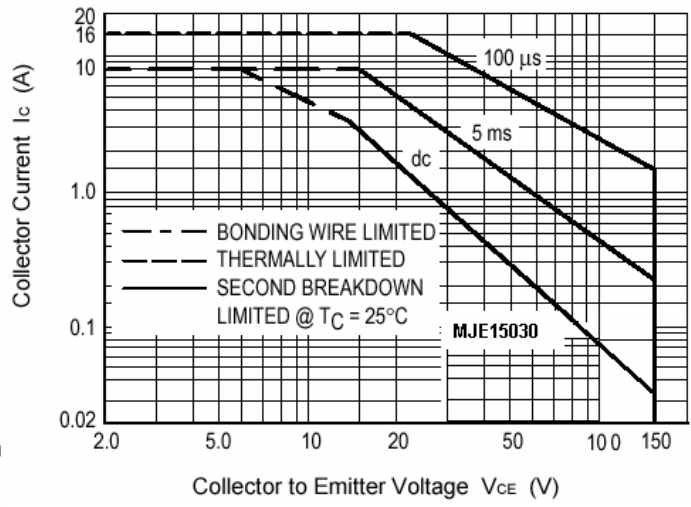


Fig.4 Safe Operating Area

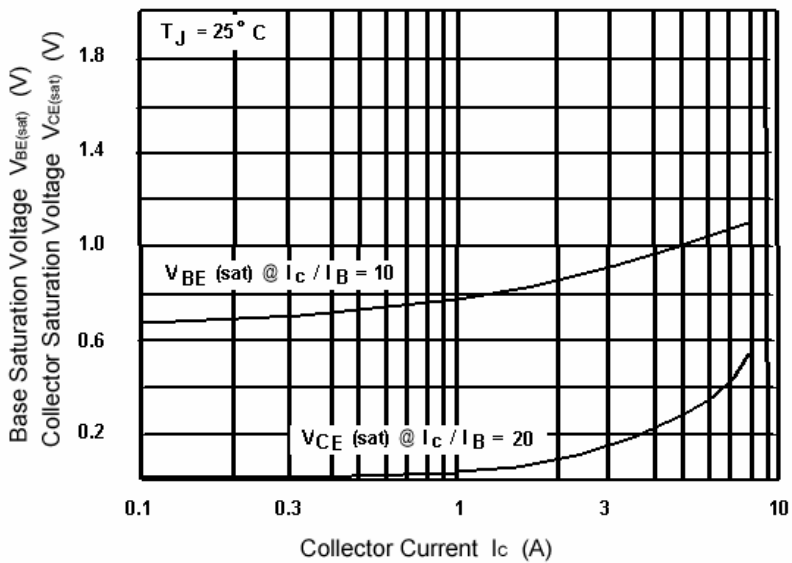


Fig.5 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage