

## Silicon PNP Power Transistors

## 2N6107 2N6109 2N6111

## DESCRIPTION

- With TO-220 package
- Complement to NPN type:  
2N6288; 2N6290 ;2N6292

## APPLICATIONS

- Power amplifier and switching circuits applications

## PINNING

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

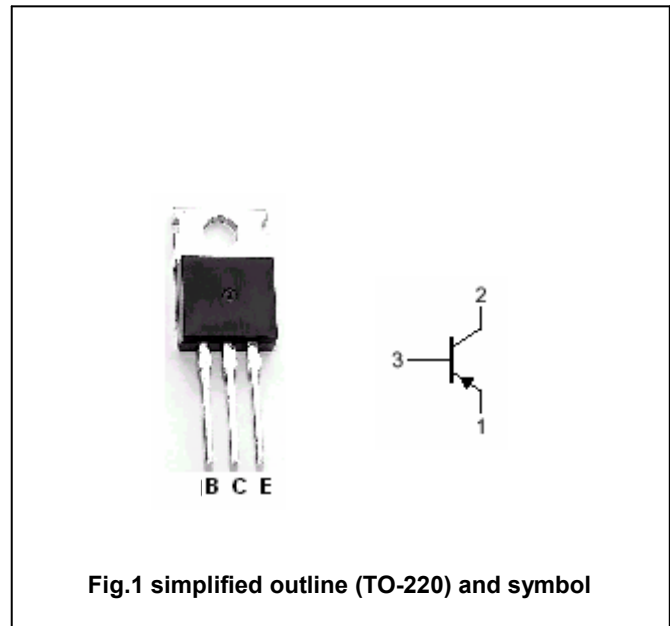


Fig.1 simplified outline (TO-220) and symbol

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	2N6107	-40	V
		2N6109	-60	
		2N6111	-80	
$V_{CEO}$	Collector-emitter voltage	2N6107	-30	V
		2N6109	-50	
		2N6111	-70	
$V_{EBO}$	Emitter-base voltage	Open collector	-5	V
$I_C$	Collector current		-7	A
$I_{CM}$	Collector current-peak		-10	A
$I_B$	Base current		-3	A
$P_T$	Total power dissipation	$T_C=25^\circ\text{C}$	40	W
$T_j$	Junction temperature		150	$^\circ\text{C}$
$T_{stg}$	Storage temperature		-65~150	$^\circ\text{C}$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	3.125	$^\circ\text{C}/\text{W}$

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT		
V <sub>CE0(SUS)</sub>	Collector-emitter sustaining voltage	2N6107	I <sub>C</sub> =-0.1A ; I <sub>B</sub> =0	-30			V	
		2N6109		-50				
		2N6111		-70				
V <sub>CEsat</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =-7A; I <sub>B</sub> =-3A			-3.5	V		
V <sub>BE</sub>	Base-emitter on voltage	I <sub>C</sub> =-7A ; V <sub>CE</sub> =-4V			-3.0	V		
I <sub>CEO</sub>	Collector cut-off current	2N6107				-1.0	mA	
		2N6109						V <sub>CE</sub> =-40V; I <sub>B</sub> =0
		2N6111						V <sub>CE</sub> =-60V; I <sub>B</sub> =0
I <sub>CEX</sub>	Collector cut-off current	2N6107				-0.1 -2.0	mA	
		2N6109						V <sub>CE</sub> =-60V; V <sub>BE</sub> =-1.5V V <sub>CE</sub> =-50V; V <sub>BE</sub> =-1.5V, T <sub>C</sub> =125 °C
		2N6111						V <sub>CE</sub> =-80V; V <sub>BE</sub> =-1.5V V <sub>CE</sub> =-70V; V <sub>BE</sub> =-1.5V, T <sub>C</sub> =125 °C
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-1.0	mA		
h <sub>FE-1</sub>	DC current gain	2N6107		30		150		
		2N6109						I <sub>C</sub> =-2.5A ; V <sub>CE</sub> =-4V
		2N6111						I <sub>C</sub> =-3A ; V <sub>CE</sub> =-4V
h <sub>FE-2</sub>	DC current gain	I <sub>C</sub> =-7A ; V <sub>CE</sub> =-4V	2.3					
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =-0.5A ; V <sub>CE</sub> =-4V; f=1MHz	10			MHz		

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PACKAGE OUTLINE



Fig.2 Outline dimensions(unindicated tolerance:±0.10 mm)