

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N6107 2N6109 2N6111 PNP  
2N6288 2N6290 2N6292 NPN

COMPLEMENTARY SILICON  
POWER TRANSISTORS

JEDEC TO-220 AB CASE

## DESCRIPTION

THE CENTRAL SEMICONDUCTOR 2N6107, 2N6288 Series types are Complementary Silicon Power Transistors manufactured by the epitaxial base process designed for general purpose amplifier and switching applications.

## MAXIMUM RATINGS (T<sub>C</sub>=25°C)

	SYMBOL	2N6111 2N6288	2N6109 2N6290	2N6107 2N6292	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	40	60	80	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	50	70	V
Emitter-Base Voltage	V <sub>EBO</sub>	5.0	5.0	5.0	V
Collector Current	I <sub>C</sub>	7.0	7.0	7.0	A
Collector Current (PEAK)	I <sub>CM</sub>	10	10	10	A
Base Current	I <sub>B</sub>	3.0	3.0	3.0	A
Power Dissipation	P <sub>D</sub>	40	40	40	W
Operating and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 TO +150			°C
Thermal Resistance	θ <sub>JC</sub>	3.13			°C/W

## ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
BV <sub>CEO</sub>	I <sub>C</sub> =100mA (2N6111, 2N6288)	30		V
BV <sub>CEO</sub>	I <sub>C</sub> =100mA (2N6109, 2N6290)	50		V
BV <sub>CEO</sub>	I <sub>C</sub> =100mA (2N6107, 2N6292)	70		V
I <sub>CEV</sub>	V <sub>CE</sub> =Rated V <sub>CBO</sub> , V <sub>EB</sub> (OFF)=1.5V		100	μA
I <sub>CEV</sub>	V <sub>CE</sub> =Rated V <sub>CEO</sub> , V <sub>EB</sub> (OFF)=1.5V, T <sub>C</sub> =150°C		2.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> =20V (2N6111, 2N6288)		1.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> =40V (2N6109, 2N6290)		1.0	mA
I <sub>CEO</sub>	V <sub>CE</sub> =60V (2N6107, 2N6292)		1.0	mA
I <sub>EBO</sub>	V <sub>BE</sub> =5.0V		1.0	mA
V <sub>CE</sub> (SAT)	I <sub>C</sub> =7.0A, I <sub>B</sub> =3.0A		3.5	V
V <sub>BE</sub> (ON) <sup>†</sup>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =7.0A		3.0	V
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =2.0A (2N6107, 2N6292)	30	150	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =2.5A (2N6109, 2N6290)	30	150	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =3.0A (2N6111, 2N6288)	30	150	
h <sub>FE</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =7.0A	2.3	-	
h <sub>fe</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =0.5A, f=50kHz	20	-	
f <sub>T</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =500mA, f=1.0MHz (NPN TYPES)	4.0		MHz
f <sub>T</sub>	V <sub>CE</sub> =4.0V, I <sub>C</sub> =500mA, f=1.0MHz (PNP TYPES)	10		MHz
C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1.0MHz		250	pF