

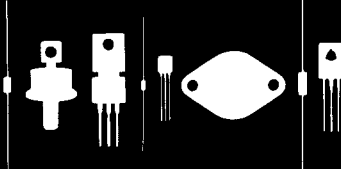
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145 Adams Avenue  
Hauppauge, New York 11788



2N651  
2N651A  
2N652  
2N652A

GERMANIUM PNP TRANSISTOR  
45 VOLTS, 200 mW

JEDEC TO-5 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N651,A 2N652,A Series are Germanium Alloy PNP Milliwatt transistors designed for low power audio amplifier and switching applications.

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

	SYMBOL		UNIT
Collector-Base Voltage	V <sub>CB0</sub>	45	V
Collector-Emitter Voltage (R <sub>BE</sub> =10,000Ω)	V <sub>CER</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	30	V
Collector Current	I <sub>C</sub>	500	mA
Power Dissipation	P <sub>D</sub>	200	mW
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 TO +100	°C

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

SYMBOL	TEST CONDITIONS	2N651 2N651A		2N652 2N652A		UNIT
		MIN	MAX	MIN	MAX	
I <sub>CB0</sub>	V <sub>CB</sub> =30V		10		10	μA
I <sub>CB0</sub>	V <sub>CB</sub> =45V		50		50	μA
I <sub>CB0</sub>	V <sub>CB</sub> =10V, T <sub>A</sub> =+71°C		100		100	μA
I <sub>CER</sub>	V <sub>CE</sub> =30V, R <sub>BE</sub> =10,000Ω		600		600	μA
I <sub>EBO</sub>	V <sub>EB</sub> =30V		10		10	μA
V <sub>EBF</sub>	V <sub>CB</sub> =45V, Input resistance ≥ 10 megohms		1.0		1.0	V
V <sub>CE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =1.67mA		0.25			V
V <sub>CE(sat)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =1.25mA				0.25	V
V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =3.33mA		0.5			V
V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =2.5mA				0.5	V
V <sub>BE(on)</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =10mA		0.26		0.25	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =10mA	45		80		-
h <sub>fe</sub>	V <sub>CB</sub> =6.0V, I <sub>E</sub> =1.0mA, f=1.0kHz	50	120	100	225	-
C <sub>ob</sub>	V <sub>CB</sub> =6.0V, f=1.0MHz		25		25	pF
NF	V <sub>CE</sub> =4.5V, I <sub>E</sub> =0.5mA, R <sub>S</sub> =1000Ω, f=1.0kHz, Δf=1.0Hz		15		15	dB

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