

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

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Manufacturers of World Class Discrete Semiconductors

2N3250  
2N3250A  
2N3251  
2N3251A

PNP SILICON TRANSISTOR

JEDEC T0-18 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3250,A and 2N3251,A are silicon PNP transistors designed for small signal, general purpose, and switching applications.

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

	SYMBOL	2N3250	2N3250A	UNITS
		2N3251	2N3251A	
Collector-Base Voltage	V <sub>CB0</sub>	50	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	40	60	V
Emitter-Base Voltage	V <sub>EBO</sub>	5.0	5.0	V
Collector Current	I <sub>C</sub>		200	mA
Power Dissipation	P <sub>D</sub>		0.36	W
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>		1.2	W
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>STG</sub>		-65 to +200	°C
Thermal Resistance, Junction to Case	θ <sub>JC</sub>		145	W/°C
Thermal Resistance, Junction to Ambient	θ <sub>JA</sub>		486	W/°C

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

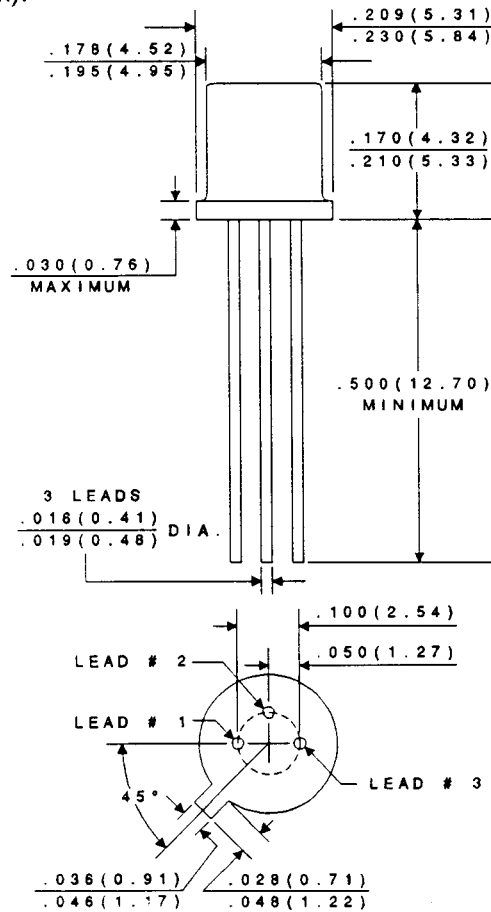
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I <sub>CEV</sub>	V <sub>CE</sub> =40V, V <sub>EB(off)</sub> =3.0V		20	nA
BV <sub>CB0</sub>	I <sub>C</sub> =10μA (2N3250, 2N3251)	50		V
	(2N3250A, 2N3251A)	60		V
BV <sub>CEO</sub>	I <sub>C</sub> =10mA (2N3250, 2N3251)	40		V
	(2N3250A, 2N3251A)	60		V
BV <sub>EBO</sub>	I <sub>E</sub> =10μA	5.0		V
V <sub>CE(s)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA		0.25	V
V <sub>CE(s)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		0.5	V
V <sub>BE(s)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1.0mA	0.6	0.9	V
V <sub>BE(s)</sub>	I <sub>C</sub> =50mA, I <sub>B</sub> =5.0mA		1.2	V
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =0.1mA (2N3250, 2N3250A)	40		
	(2N3251, 2N3251A)	80		
h <sub>FE</sub>	V <sub>CE</sub> =1.0V, I <sub>C</sub> =1.0mA (2N3250, 2N3250A)	45		
	(2N3251, 2N3251A)	90		

ELECTRICAL CHARACTERISTICS (cont.) ( $T_A=25^\circ\text{C}$  unless otherwise noted)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=10\text{mA}$ (2N3250, 2N3250A) (2N3251, 2N3251A)	50 100	150 300	
$h_{FE}$	$V_{CE}=1.0\text{V}$ , $I_C=50\text{mA}$ (2N3250, 2N3250A) (2N3251, 2N3251A)	15 30		
$f_T$	$V_{CE}=20\text{V}$ , $I_C=10\text{mA}$ , $f=100\text{MHz}$ (2N3250, 2N3250A) (2N3251, 2N3251A)	250 300		MHz MHz
$C_{obo}$	$V_{CB}=10\text{V}$ , $f=100\text{kHz}$		6.0	pF
$C_{ibo}$	$V_{CB}=1.0\text{V}$ , $f=100\text{kHz}$		8.0	pF
NF	$V_{CE}=5.0\text{V}$ , $I_C=100\mu\text{A}$ , $R_S=1.0\text{K}\Omega$ , $f=100\text{Hz}$		6.0	dB
$t_{ON}$	$V_{CC}=3.0\text{V}$ , $V_{BE}=0.5\text{V}$ , $I_C=10\text{mA}$ , $I_{B1}=1.0\text{mA}$		70	ns
$t_{OFF}$	$V_{CC}=3.0\text{V}$ , $I_C=10\text{mA}$ , $I_{B1}=I_{B2}=1.0\text{mA}$ (2N3250, 2N3250A) (2N3251, 2N3251A)		225 250	ns ns

TO-18 MECHANICAL OUTLINE

All Dimensions in inches (mm).



LEAD CODE

- 1) EMITTER
- 2) BASE
- 3) COLLECTOR

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