



THE DATASHEET OF
2N3250



2N3250 2N3250A
2N3251 2N3251A

**SILICON
PNP TRANSISTORS**



TO-18 CASE



www.centrasemi.com

DESCRIPTION:

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

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	2N3250	2N3250A	UNITS	
	2N3251	2N3251A		
Collector-Base Voltage	V_{CBO}	50	60	V
Collector-Emitter Voltage	V_{CEO}	40	60	V
Emitter-Base Voltage	V_{EBO}		5.0	V
Continuous Collector Current	I_C		200	mA
Power Dissipation	P_D		360	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D		1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200	$^\circ\text{C}$
Thermal Resistance	θ_{JC}		146	$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}		486	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEV}	$V_{CE}=40\text{V}, V_{EB}=3.0\text{V}$		20	nA
BV_{CBO}	$I_C=10\mu\text{A}$ (2N3250, 2N3251)	50		V
BV_{CBO}	$I_C=10\mu\text{A}$ (2N3250A, 2N3251A)	60		V
BV_{CEO}	$I_C=10\text{mA}$ (2N3250, 2N3251)	40		V
BV_{CEO}	$I_C=10\text{mA}$ (2N3250A, 2N3251A)	60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.25	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		0.50	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$	0.60	0.90	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.20	V

		2N3250		2N3251	
		2N3250A	2N3251A	2N3250A	2N3251A
		MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.1\text{mA}$	40	-	80	-
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{mA}$	45	-	90	-
h_{FE}	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	50	150	100	300
h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	15	-	30	-

R1 (4-March 2014)

2N3250 2N3250A
2N3251 2N3251A

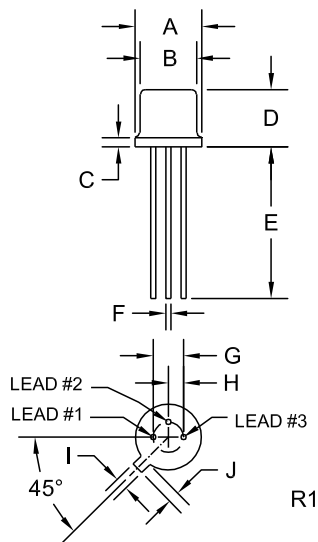
SILICON
PNP TRANSISTORS



ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3250		2N3251		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	250	-	300	-	MHz
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=100\text{kHz}$	-	6.0	-	6.0	pF
C_{ib}	$V_{EB}=1.0\text{V}$, $I_C=0$, $f=100\text{kHz}$	-	8.0	-	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	-	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	-	70	ns
t_{off}	$V_{CC}=3.0\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1.0\text{mA}$	-	225	-	250	ns

TO-18 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING:
FULL PART NUMBER

R1 (4-March 2014)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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Central's applications engineering team is ready to discuss your design challenges. Just ask.

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- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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