

CZT5401E

**ENHANCED SPECIFICATION
SURFACE MOUNT SILICON
PNP TRANSISTOR**



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SOT-223 CASE

APPLICATIONS:

- General purpose switching and amplification
- Telephone applications

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CZT5401E is a PNP silicon transistor, packaged in an SOT-223 case, designed for general purpose amplifier applications requiring high breakdown voltage.

MARKING: FULL PART NUMBER

FEATURES:

- High Collector Breakdown Voltage 250V
- Low Leakage Current 50nA MAX
- Low Saturation Voltage 150mV MAX @ 50mA
- Complementary Device: CZT5551E
- SOT-223 Surface Mount Package

MAXIMUM RATINGS: (T_A=25°C)

◆ Collector-Base Voltage	
◆ Collector-Emitter Voltage	
◆ Emitter-Base Voltage	
Continuous Collector Current	
Power Dissipation	
Operating and Storage Junction Temperature	
Thermal Resistance	

SYMBOL		UNITS
V _{CBO}	250	V
V _{CEO}	220	V
V _{EBO}	7.0	V
I _C	600	mA
P _D	2.0	W
T _J , T _{stg}	-65 to +150	°C
θ _{JA}	62.5	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CBO}	V _{CB} =120V		50	nA
I _{CBO}	V _{CB} =120V, T _A =100°C		50	μA
I _{EBO}	V _{EB} =3.0V		50	nA
◆ BV _{CBO}	I _C =100μA	250		V
◆ BV _{CEO}	I _C =1.0mA	220		V
◆ BV _{EBO}	I _E =10μA	7.0		V
◆ V _{CE(SAT)}	I _C =10mA, I _B =1.0mA		100	mV
◆ V _{CE(SAT)}	I _C =50mA, I _B =5.0mA		150	mV
V _{BE(SAT)}	I _C =10mA, I _B =1.0mA		1.00	V
V _{BE(SAT)}	I _C =50mA, I _B =5.0mA		1.00	V

◆ Enhanced specification

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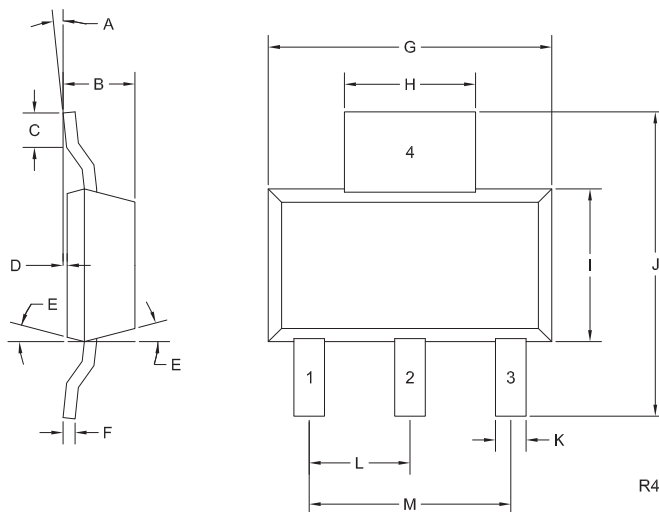


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
◆ h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{mA}$	100		
◆ h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	100	300	
◆ h_{FE}	$V_{CE}=5.0\text{V}, I_C=50\text{mA}$	75		
◆ h_{FE}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	25		
f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	300	MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		6.0	pF
h_{fe}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}, f=1.0\text{kHz}$	40	200	
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=10\Omega,$ $f=10\text{Hz to } 15.7\text{kHz}$		8.0	dB

◆ Enhanced specification

SOT-223 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0°	10°	0°	10°
B	0.059	0.071	1.50	1.80
C	0.018	—	0.45	—
D	0.000	0.004	0.00	0.10
E	10°		10°	
F	0.009	0.014	0.23	0.35
G	0.248	0.264	6.30	6.70
H	0.114	0.122	2.90	3.10
I	0.130	0.146	3.30	3.70
J	0.264	0.287	6.70	7.30
K	0.024	0.033	0.60	0.85
L	0.091		2.30	
M	0.181		4.60	

SOT-223 (REV: R4)

LEAD CODE:

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

**MARKING:
FULL PART NUMBER**

R2 (11-December 2017)

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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- 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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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centrasemi.com/terms

Product End of Life Notification

PDN ID:	PDN01024 Rev:001
Notification Date:	10/07/16
Last Buy Date:	11/11/16
Last Shipment Date	5/11/17

Summary: The following high voltage NPN and PNP enhanced specification transistors were discontinued on May 11, 2016, and are currently classified as End of Life (EOL). Rev:001 of PDN#01024, October 7, 2016, is being issued to remove part #s CZT5551E BK and CZT5551E TR from the PDN to address market demand. CZT5551E BK and CZT5551E TR are now active devices.

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

<u>Central Part Number</u>	<u>Replacement</u>
CMPT5401E BK	CMPT5401 BK
CMPT5401E TR	CMPT5401 TR
CMPT5551E BK	CMPT5551 BK H
CMPT5551E TR	CMPT5551 TR H
CMUT5401E BK	CMUT5401 BK
CMUT5401E TR	CMUT5401 TR
CMUT5551E BK	CMUT5551 BK
CMUT5551E TR	CMUT5551 TR
CXT5401E BK	CXT5401 BK H
CXT5401E TR	CXT5401 TR H
CXT5551E BK	CXT5551 BK
CXT5551E TR	CXT5551 TR
CZT5401E BK	CZT5401 BK H
CZT5401E TR	CZT5401 TR H

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centralsemi.com.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.