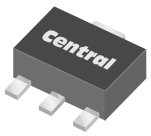
CXT7820

SURFACE MOUNT
VERY LOW $V_{CE(SAT)}$
PNP SILICON TRANSISTOR



SOT-89 CASE

• Device is ***Halogen Free*** by design

FEATURES:

- High Current (I_C=1.0A)
- $V_{CE(SAT)}$=0.34V MAX @ I_C=1.0A
- SOT-89 surface mount package
- Complementary NPN device: CXT3820

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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXT7820 is a very low $V_{CE(SAT)}$ PNP transistor designed for applications where electrical and thermal efficiency are prime requirements. Packaged in an industry standard SOT-89 case, this device brings updated electrical specifications and characteristics suitable for the most demanding designs.

MARKING: FULL PART NUMBER

APPLICATIONS:

- DC/DC Converters
- Voltage Clamping
- Protection Circuits
- Battery powered Cell Phones, Pagers, Digital Cameras, PDAs, Laptops, etc.

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Continuous Base Current	I_B	300	mA
Power Dissipation	P_D	1.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	104	°C/W

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=60V		100	nA
I_{EBO}	V_{EB}=5.0V		100	nA
BV_{CBO}	I_C=100μA	80		V
BV_{CEO}	I_C=10mA	60		V
BV_{EBO}	I_E=100μA	5.0		V
$V_{CE(SAT)}$	I_C=100mA, I_B=1.0mA		0.175	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.18	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		0.34	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=50mA		1.1	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=1.0A		0.9	V
h_{FE}	V_{CE}=5.0V, I_C=1.0mA	200		
h_{FE}	V_{CE}=5.0V, I_C=500mA	150		
h_{FE}	V_{CE}=5.0V, I_C=1.0A	100		
f_T	V_{CE}=10V, I_C=50mA	150		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		15	pF

R1 (23-February 2010)

CXT7820

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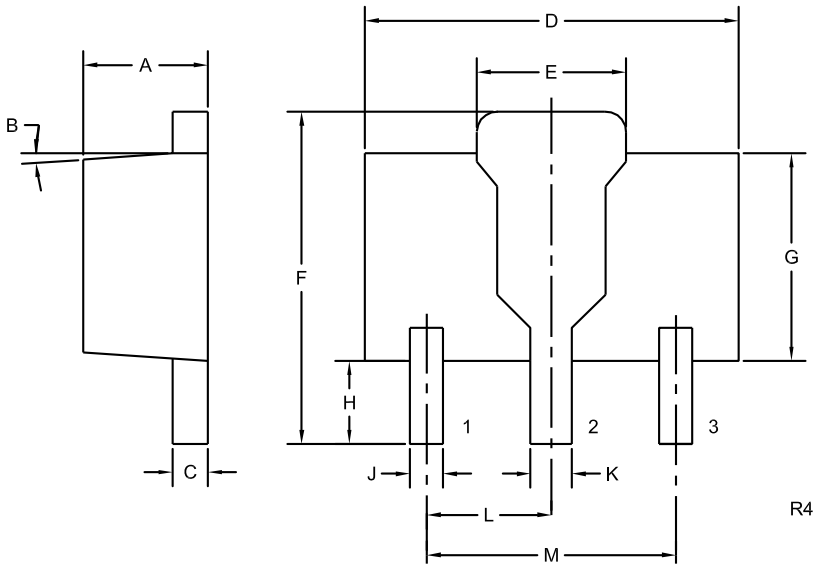
SOT-89 CASE - MECHANICAL OUTLINE



(Bottom View)

LEAD CODE:
1) Emitter
2) Collector
3) Base

MARKING:
FULL PART NUMBER

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

R1 (23-February 2010)

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

Corporate Headquarters & Customer Support Team

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Hauppauge, NY 11788 USA
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Worldwide Distributors:
www.centralsemi.com/wwdistributors

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.centralsemi.com/terms

https://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01274
Notification Date:	2/19/25
Last Buy Date:	8/19/25
Last Shipment Date	2/19/26

Summary:All devices manufactured in the SOT-89 package are discontinued and now classified as End of Life (EOL).
Available options are:
1. Orders will be accepted for products with available inventory.
2. Last Time Buy (LTB) may be available for certain items.
3. A replacement product not available at the time of this notice, may be under development.
Please contact your Central Semiconductor Customer Service Representative at 001.631.435.1110

Although Central Semiconductor makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other 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 ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
BCX51 BK	N/A
BCX51 TR	N/A
BCX51-10 BK	N/A
BCX51-10 TR	N/A
BCX51-16 BK	N/A
BCX51-16 TR	N/A
BCX52 TR	N/A
BCX52-10 TR	N/A
BCX52-16 BK	N/A
BCX52-16 TR	N/A
BCX53 BK	N/A
BCX53 TR	N/A
BCX53-10 TR	N/A
BCX53-16 BK	N/A
BCX53-16 TR	N/A
BCX54 TR	N/A
BCX54-10 TR	N/A
BCX54-16 BK	N/A
BCX54-16 TR	N/A
BCX55 TR	N/A
BCX55-10 TR	N/A
BCX55-16 BK	N/A
BCX55-16 TR	N/A
BCX56-16 BK	N/A
BCX56-16 TR	N/A
CBCX68 BK	N/A
CBCX68 TR	N/A
CBCX68-16 BK	N/A
CBCX68-16 TR	N/A
CBCX68-25 BK	N/A
CBCX69 BK	N/A

*** CONTINUED ***

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor 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.

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*** CONTINUED FROM PRIOR PAGE ***

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Central Part Number	Suggested Replacement
CBCX69 TR	N/A
CBCX69-16 BK	N/A
CBCX69-16 TR	N/A
CBCX69-25 BK	N/A
CBCX69-25 TR	N/A
CS89M BK	N/A
CS89M TR	N/A
CS89N BK	N/A
CS89N TR	N/A
CXDM1002N BK	N/A
CXDM1002N TR	N/A
CXDM4060N BK	N/A
CXDM4060N TR	N/A
CXDM4060P BK	N/A
CXDM4060P TR	N/A
CXDM6053N BK	N/A
CXDM6053N TR	N/A
CXR1-04 BK	N/A
CXR1-04 TR	N/A
CXSH-4 BK	N/A
CXSH-4 TR	N/A
CXTA14 BK	N/A
CXTA14 TR	N/A
CXTA27 BK	N/A
CXTA27 TR	N/A
CXTA42 BK	N/A
CXTA42 TR	N/A
CXTA44 BK	N/A
CXTA44 TR	N/A
CXTA62 BK	N/A
CXTA62 TR	N/A
CXTA64 BK	N/A
CXTA64 TR	N/A
CXTA92 BK	N/A
CXTA92 TR	N/A
CXT2222A BK	N/A
CXT2222A TR	N/A
CXT2907A BK	N/A
CXT2907A TR	N/A
CXT3019 BK	N/A
CXT3019 TR	N/A
CXT3090L BK	N/A
CXT3090L TR	N/A

*** CONTINUED ***

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Central Part Number	Suggested Replacement
CXT3150 BK	N/A
CXT3150 TR	N/A
CXT3410 BK	N/A
CXT3410 TR	N/A
CXT3820 TR	N/A
CXT3904 BK	N/A
CXT3904 TR	N/A
CXT3904 TR13	N/A
CXT3906 BK	N/A
CXT3906 TR	N/A
CXT4033 BK	N/A
CXT4033 TR	N/A
CXT491E BK	N/A
CXT491E TR	N/A
CXT5401 BK	N/A
CXT5401 TR	N/A
CXT5551 BK	N/A
CXT5551 TR	N/A
CXT5551HC BK	N/A
CXT5551HC TR	N/A
CXT591E BK	N/A
CXT591E TR	N/A
CXT7090L BK	N/A
CXT7090L TR	N/A
CXT7410 BK	N/A
CXT7410 TR	N/A
CXT7820 TR	N/A

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. If you would like assistance, please visit https://my.centralsemi.com/submit-inquiry?type=ER to submit an online inquiry.

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