



**THE DATASHEET OF
CMZ5945B TR13 PBFREE**



CMZ5913B THRU CMZ5956B
SURFACE MOUNT SILICON
ZENER DIODES
1.5 WATT, 3.3 THRU 200 VOLT
± 5% TOLERANCE



www.centalsemi.com



SMA CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMZ5913B series 1.5 Watt surface mount silicon Zener diodes are highly reliable components designed for use in all types of commercial, industrial, entertainment, computer, and automotive applications where small size is required. The SMA case occupies 30% less board space than the SMB case.

MARKING: SEE MARKING CODE ON ELECTRICAL CHARACTERISTIC TABLE

FEATURES:

- Super miniature case
- 200 Watts of TVS power
- ± 5% Tolerance
- High reliability
- “C” bend construction provides strain relief when mounted on pc board

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

Peak Forward Surge Current, $t_p=8.3\text{ms}$

Power Dissipation ($T_L=75^{\circ}\text{C}$)

Power Dissipation (Note 1)

Peak Power Dissipation, $t_p=10 \times 1000\mu\text{s}$ ($T_L < 25^{\circ}\text{C}$)

Peak Power Dissipation, $t_p=8 \times 20\mu\text{s}$ ($T_L < 25^{\circ}\text{C}$)

Operating and Storage Junction Temperature

Thermal Resistance

Thermal Resistance (Note 1)

Note 1: Mounted on 2 inch square FR-4 PCB with minimum recommended SMA copper pad area.

SYMBOL

UNITS

I_{FSM}	10	A
P_D	1.5	W
P_D	0.5	W
P_{PK}	200	W
P_{PK}	1000	W
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
Θ_{JL}	50	$^{\circ}\text{C}/\text{W}$
Θ_{JA}	250	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$) $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$ (for all types)

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT} mA	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER CURRENT ($T_L=75^{\circ}\text{C}$) I_{ZM} mA	MARKING CODE
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$	V_R			
	V	V	V		Ω	Ω	mA		μA		
CMZ5913B*	3.135	3.3	3.465	113.6	10	500	1.0	100	1.0	454	C5913B
CMZ5914B*	3.420	3.6	3.780	104.2	9.0	500	1.0	75	1.0	416	C5914B
CMZ5915B*	3.705	3.9	4.095	96.1	7.5	500	1.0	25	1.0	384	C5915B
CMZ5916B*	4.085	4.3	4.515	87.2	6.0	500	1.0	5.0	1.0	348	C5916B
CMZ5917B*	4.465	4.7	4.935	79.8	5.0	500	1.0	5.0	1.5	319	C5917B
CMZ5918B*	4.845	5.1	5.355	73.5	4.0	350	1.0	5.0	2.0	294	C5918B
CMZ5919B	5.320	5.6	5.880	66.9	2.0	250	1.0	5.0	3.0	267	C5919B
CMZ5920B	5.890	6.2	6.510	60.5	2.0	200	1.0	5.0	4.0	241	C5920B
CMZ5921B	6.460	6.8	7.140	55.1	2.5	200	1.0	5.0	5.2	221	C5921B
CMZ5922B	7.125	7.5	7.875	50.0	3.0	400	0.5	5.0	6.0	200	C5922B
CMZ5923B	7.790	8.2	8.610	45.7	3.5	400	0.5	5.0	6.5	183	C5923B
CMZ5924B	8.645	9.1	9.555	41.2	4.0	500	0.5	5.0	7.0	165	C5924B
CMZ5925B	9.500	10	10.50	37.5	4.5	500	0.25	5.0	8.0	150	C5925B
CMZ5926B	10.45	11	11.55	34.1	5.5	550	0.25	1.0	8.4	136	C5926B

*Available on special order; minimum quantity may apply; consult factory.

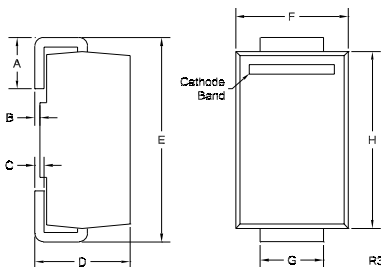
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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$) $V_F=1.5\text{V MAX @ } I_F=200\text{mA}$ (for all types)

TYPE	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM ZENER CURRENT ($T_L=75^\circ\text{C}$) I_{ZM}	MARKING CODE
	MIN	NOM	MAX		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_R @ V_R$	V_R			
	V	V	V		Ω	Ω			μA		
CMZ5927B	11.40	12	12.60	31.2	6.5	550	0.25	1.0	9.1	125	C5927B
CMZ5928B	12.35	13	13.65	28.8	7.0	550	0.25	1.0	9.9	115	C5928B
CMZ5929B	14.25	15	15.75	25.0	9.0	600	0.25	1.0	11.4	100	C5929B
CMZ5930B	15.20	16	16.80	23.4	10	600	0.25	1.0	12.2	94	C5930B
CMZ5931B	17.10	18	18.90	20.8	12	650	0.25	1.0	13.7	83	C5931B
CMZ5932B	19.00	20	21.00	18.7	14	650	0.25	1.0	15.2	75	C5932B
CMZ5933B	20.90	22	23.10	17.0	17.5	650	0.25	1.0	16.7	68	C5933B
CMZ5934B	22.80	24	25.20	15.6	19	700	0.25	1.0	18.2	63	C5934B
CMZ5935B	25.65	27	28.35	13.9	23	700	0.25	1.0	20.6	56	C5935B
CMZ5936B	28.50	30	31.50	12.5	26	750	0.25	1.0	22.8	50	C5936B
CMZ5937B	31.35	33	34.65	11.4	33	800	0.25	1.0	25.1	45	C5937B
CMZ5938B	34.20	36	37.80	10.4	38	850	0.25	1.0	27.4	42	C5938B
CMZ5939B	37.05	39	40.95	9.6	45	900	0.25	1.0	29.7	38	C5939B
CMZ5940B	40.85	43	45.15	8.7	53	950	0.25	1.0	32.7	35	C5940B
CMZ5941B	44.65	47	49.35	8.0	67	1000	0.25	1.0	35.8	32	C5941B
CMZ5942B	48.45	51	53.55	7.3	70	1100	0.25	1.0	38.8	29	C5942B
CMZ5943B	53.20	56	58.80	6.7	86	1300	0.25	1.0	42.6	27	C5943B
CMZ5944B	58.90	62	65.10	6.0	100	1500	0.25	1.0	47.1	24	C5944B
CMZ5945B	64.60	68	71.40	5.5	120	1700	0.25	1.0	51.7	22	C5945B
CMZ5946B	71.25	75	78.75	5.0	140	2000	0.25	1.0	56.0	20	C5946B
CMZ5947B	77.90	82	86.10	4.6	160	2500	0.25	1.0	62.2	18	C5947B
CMZ5948B	86.45	91	95.55	4.1	200	3000	0.25	1.0	69.2	16	C5948B
CMZ5949B	95.00	100	105.0	3.7	250	3100	0.25	1.0	76.0	15	C5949B
CMZ5950B	104.5	110	115.5	3.4	300	4000	0.25	1.0	83.6	13	C5950B
CMZ5951B	114.0	120	126.0	3.1	360	4500	0.25	1.0	91.2	12	C5951B
CMZ5952B	123.5	130	136.5	2.9	450	5000	0.25	1.0	98.8	11	C5952B
CMZ5953B	142.5	150	157.5	2.5	600	6000	0.25	1.0	114.0	10	C5953B
CMZ5954B	152.0	160	168.0	2.3	700	6500	0.25	1.0	121.6	9.0	C5954B
CMZ5955B	171.0	180	189.0	2.1	900	7000	0.25	1.0	136.8	8.0	C5955B
CMZ5956B	190.0	200	210.0	1.9	1200	8000	0.25	1.0	152.0	7.0	C5956B

SMA CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.030	0.060	0.76	1.52
B	0.002	0.008	0.05	0.20
C	0.006	0.012	0.15	0.30
D	0.078	0.103	1.98	2.62
E	0.188	0.220	4.78	5.59
F	0.090	0.115	2.29	2.92
G	0.050	0.070	1.27	1.78
H	0.157	0.181	3.99	4.60

SMA (REV:R3)

R12 (05-June 2023)

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:	PDN01081
Notification Date:	4/30/18
Last Buy Date:	10/30/18
Last Shipment Date	4/30/19

Summary: All low voltage Zener diodes, less than 5.6V, in the SMA, SMB and SMC case types are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. 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 Management Process. 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.

<u>Central Part Number</u>	<u>Replacement</u>
CMZ5334B BK	N/A
CMZ5334B TR13	N/A
CMZ5335B BK	N/A
CMZ5335B TR13	N/A
CMZ5336B BK	N/A
CMZ5336B TR13	N/A
CMZ5337B BK	N/A
CMZ5337B TR13	N/A
CMZ5338B BK	N/A
CMZ5338B TR13	N/A
CMZ5913B BK	N/A
CMZ5913B TR13	N/A
CMZ5914B BK	N/A
CMZ5914B TR13	N/A
CMZ5914BP BK	N/A
CMZ5914BP TR13	N/A
CMZ5915B BK	N/A
CMZ5915B TR13	N/A
CMZ5915BP TR13	N/A
CMZ5916B BK	N/A
CMZ5916B TR13	N/A
CMZ5916BP TR13	N/A
CMZ5917B BK	N/A
CMZ5917B TR13	N/A
CMZ5917BP BK	N/A
CMZ5917BP TR13	N/A
CMZ5918B BK	N/A
CMZ5918B TR13	N/A
CMZ5918BP BK	N/A
CMZ5918BP TR13	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. 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.

Looking for pricing, stock, or lifecycle information?

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
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