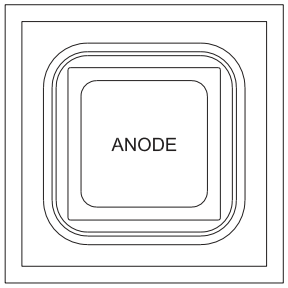
Central Semiconductor Corp.
www.centralsemi.com

CPZ28X
Zener Diode Die
0.5W, 2.4 THRU 75 VOLT

The CPZ28X silicon Zener diode series is ideal for all types of commercial, industrial, entertainment, and computer applications. The Zener voltage tolerance is ±5%. See packing options for ordering information.



BACKSIDE CATHODE R0

MECHANICAL SPECIFICATIONS:

Die Size	13 x 13 MILS
Die Thickness	5.5 MILS
Anode Bonding Pad Size	7.0 x 7.0 MILS
Top Side Metalization	Ti/Al – 13,000Å
Back Side Metalization	Au-As – 9,000Å
Scribe Alley Width	1.97 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	101,184

MAXIMUM RATINGS: **SYMBOL** **UNITS**

Operating and Storage Junction Temperature T_J, T_{stg} -65 to +150 °C

ELECTRICAL CHARACTERISTICS: (T_A=25°C) V_F=1.1V MAX @ I_F=200mA (for all types)

TYPE	ZENER VOLTAGE V_Z @ I_{ZT}			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM TEMPERATURE COEFFICIENT
	MIN	NOM	MAX	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		ΘV_Z
	V	V	V	mA	Ω	Ω	mA	µA	V	%/°C
1N5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085
1N5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085
1N5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080
1N5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080
1N5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075
1N5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070
1N5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065
1N5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060
1N5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	±0.055
1N5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	±0.030
1N5231B	4.845	5.1	5.355	20	17	1600	0.25	5.0	2.0	±0.030
1N5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038
1N5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038
1N5234B	5.890	6.2	6.510	20	7.0	1000	0.25	5.0	4.0	+0.045
1N5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050
1N5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058
1N5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062
1N5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065
1N5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068
1N5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075
1N5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076
1N5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077
1N5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079
1N5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082
1N5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082
1N5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083

R0 (23-March 2015)

CPZ28X
Zener Diode Die
0.5W, 2.4 THRU 75 VOLT

www.centralsemi.com

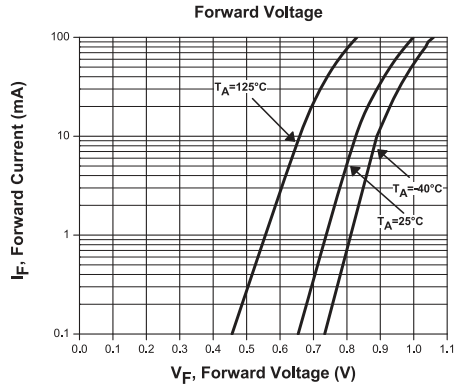
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C) V_F=1.1V MAX @ I_F=200mA (for all types)

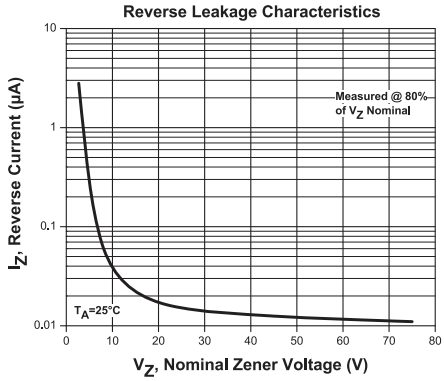
TYPE	ZENER VOLTAGE V_Z @ I_{ZT}			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM TEMPERATURE COEFFICIENT
	MIN	NOM	MAX	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}		I_R @ V_R		ΘV_Z
	V	V	V	mA	Ω	Ω	mA	μA	V	%/°C
1N5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084
1N5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085
1N5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086
1N5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	15	+0.086
1N5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087
1N5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088
1N5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089
1N5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090
1N5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091
1N5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091
1N5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092
1N5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093
1N5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094
1N5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095
1N5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095
1N5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	+0.096
1N5263B	53.20	56	58.80	2.2	150	1300	0.25	0.1	43	+0.096
1N5264B	57.00	60	63.00	2.1	170	1400	0.25	0.1	46	+0.097
1N5265B	58.90	62	65.10	2.0	185	1400	0.25	0.1	47	+0.097
1N5266B	64.60	68	71.40	1.8	230	1600	0.25	0.1	52	+0.097
1N5267B	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	+0.098

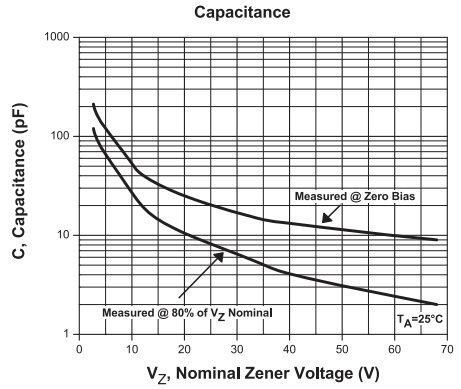
PACKING OPTIONS:
- CPZ28X-(type number)-CT: Singulated die in waffle pack; 400 die per tray.
- CPZ28X-(type number)-WN: Full wafer, unsawn, 100% tested with reject die inked.
- CPZ28X-(type number)-WR: Full wafer, sawn and mounted on plastic ring, 100% tested with reject die inked.

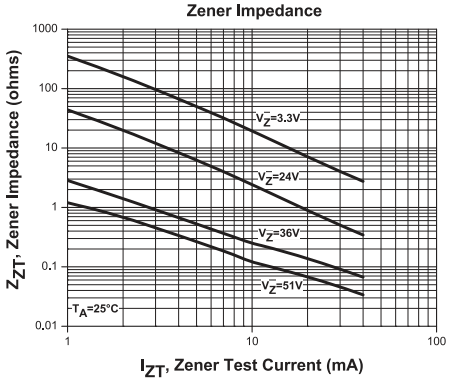
CPZ28X
Typical Electrical Characteristics

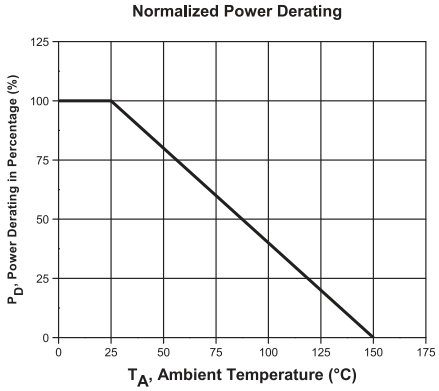
www.centralsemi.com





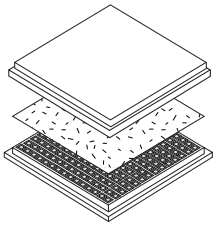






R0 (23-March 2015)

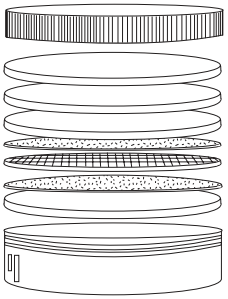
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

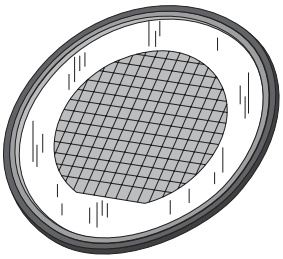
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

CM: Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).
(example: CP211-PART NUMBER-CM)



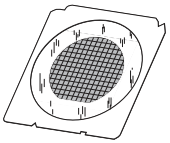
UNSAWN WAFER

WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



SAWN WAFER ON PLASTIC RING

WR: Full wafer, sawn and mounted on plastic ring, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WR)



Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.

Visit the Central website for a complete listing of specifications:
www.centralsemi.com/bdspecs

R2 (3-April 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

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors