

# Surface Mount Zener Diode

## CZRV5221B - CZRV5259B

Voltage: 2.4 - 39 Volts  
Power: 200mWatts

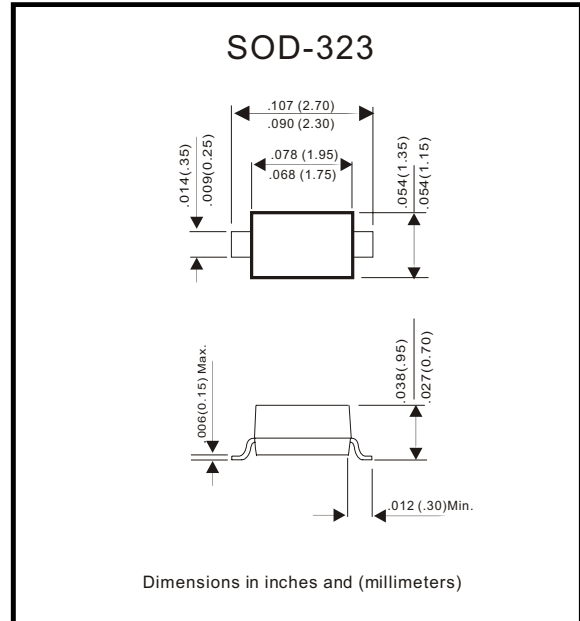


### FEATURES

- Planar Die construction
- 200mW Power Dissipation
- Zener Voltages from 2.4V - 39V
- Ideally Suited for Automated Assembly Processes

### MECHANICAL DATA

- Case: SOD-323, Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Approx. Weight: 0.008 gram



### Maximum Ratings and Electrical Characteristics

Parameter	Symbol	Value
Power Dissipation (Note 1) @ 75 °C	$P_D$	200
Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note 2)	$I_{FSM}$	2.0
Operating Junction and Storage Temperature Range	$T_J$	-55 to +150

#### NOTES:

- Mounted on 5.0mm<sup>2</sup> (.013mm thick) land areas.
- Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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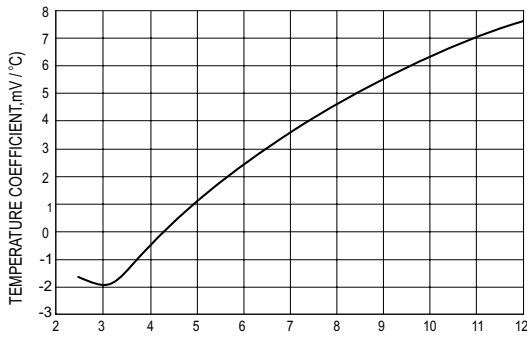
## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted) $V_F=1.2\text{V max}$ , $I_F=100\text{mA}$

Part Number	Nominal Zener Voltage			Max. Zener Impedance				Max. Reverse Leakage Current	
	$V_Z @ I_{ZT}$			$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
	Nom. V	Min. V	Max. V	$\Omega$	mA	$\Omega$	mA	$\mu\text{A}$	V
<b>200 mWatts Zener Diode</b>									
CZRV5221B	2.4	2.28	2.52	30	20	1200	0.25	100	1
CZRV5222B	2.5	2.38	2.63	30	20	1250	0.25	100	1
CZRV5223B	2.7	2.57	2.84	30	20	1300	0.25	75	1
CZRV5225B	3	2.85	3.15	30	20	1600	0.25	50	1
CZRV5226B	3.3	3.14	3.47	28	20	1600	0.25	25	1
CZRV5227B	3.6	3.42	3.78	24	20	1700	0.25	15	1
CZRV5228B	3.9	3.71	4.1	23	20	1900	0.25	10	1
CZRV5229B	4.3	4.09	4.52	22	20	2000	0.25	5	1
CZRV5230B	4.7	4.47	4.94	19	20	1900	0.25	5	2
CZRV5231B	5.1	4.85	5.36	17	20	1600	0.25	5	2
CZRV5232B	5.6	5.32	5.88	11	20	1600	0.25	5	3
CZRV5234B	6.2	5.89	6.51	7	20	1000	0.25	5	4
CZRV5235B	6.8	6.46	7.14	5	20	750	0.25	3	5
CZRV5236B	7.5	7.13	7.88	6	20	500	0.25	3	6
CZRV5237B	8.2	7.79	8.61	8	20	500	0.25	3	6
CZRV5239B	9.1	8.65	9.56	10	20	600	0.25	3	6.5
CZRV5240B	10	9.5	10.5	17	20	600	0.25	3	8
CZRV5241B	11	10.45	11.55	22	20	600	0.25	3	8.4
CZRV5242B	12	11.4	12.6	30	20	600	0.25	2	9.1
CZRV5243B	13	12.35	13.65	13	9.5	600	0.25	1	9.9
CZRV5245B	15	14.25	15.75	16	8.5	600	0.25	0.5	11
CZRV5246B	16	15.2	16.8	17	7.8	600	0.25	0.1	12
CZRV5248B	18	17.1	18.9	21	7	600	0.25	0.1	14
CZRV5250B	20	19	21	25	6.2	600	0.25	0.1	15
CZRV5251B	22	20.9	23.1	29	5.6	600	0.25	0.1	17
CZRV5252B	24	22.8	25.2	33	5.2	600	0.25	0.1	18
CZRV5254B	27	25.65	28.35	41	5	600	0.25	0.1	21
CZRV5255B	28	26.6	29.4	44	4.5	600	0.25	0.1	21
CZRV5256B	30	28.5	31.5	49	4.2	600	0.25	0.1	23
CZRV5257B	33	31.35	34.65	58	3.8	700	0.25	0.1	25
CZRV5258B	36	34.2	37.8	70	3.4	700	0.25	0.1	27
CZRV5259B	39	37.05	40.95	80	3.2	800	0.25	0.1	30

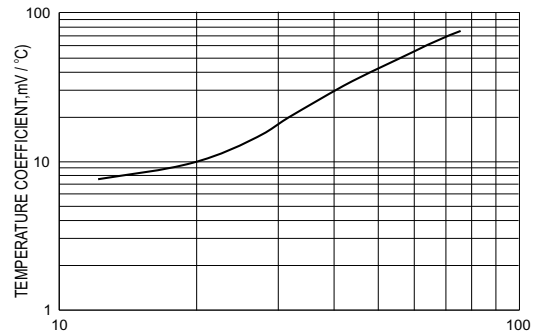
**NOTE:**

- Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .
- Specials Available Include:
  - Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - Matched sets.
- Zener Voltage ( $V_Z$ ) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature ( $T_L$ ) at 300C, from the diode body.
- Zener Impedance (ZZ) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ .
- Surge Current (IR) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of wave pulse of 1/120 second duration superimposed on the test current,  $I_{ZT}$ , per JEDEC registration; however, actual device capability is as described in Figure 5.

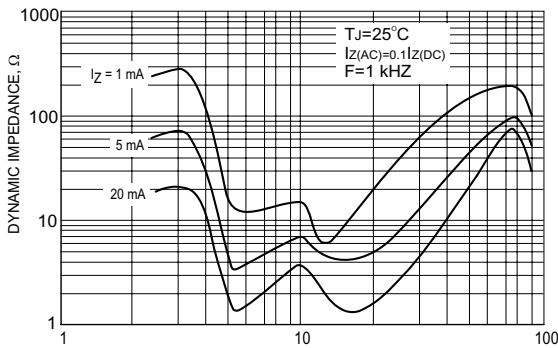
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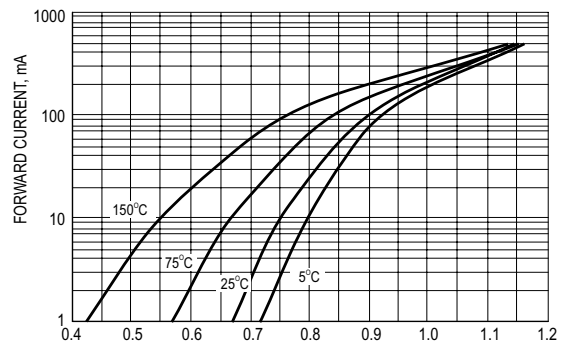
NOMINAL ZENER VOLTAGE, Volts



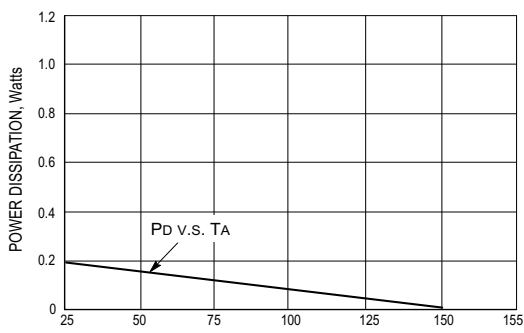
NOMINAL ZENER VOLTAGE, Volts



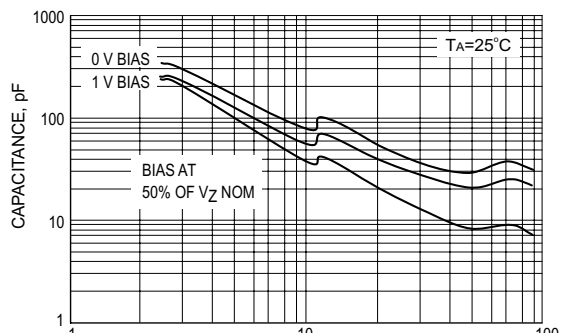
NORMAL ZENER VOLTAGE, Volts



FORWARD VOLTAGE, Volts



TEMPERATURE (°C)



NOMINAL ZENER VOLTAGE, Volts

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