

## CZRT 5221 THRU 5259

Voltage: 2.4 - 39 Volts

Power: 500mWatts

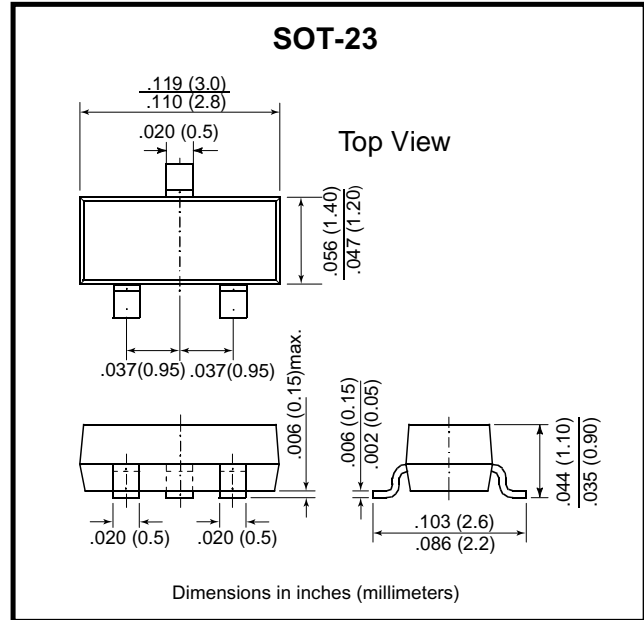


### Features

- Planar Die construction
- 500mW Power Dissipation
- Zener Voltages from 2.4V – 39V
- Ideally Suited for Automated Assembly Processes

### Mechanical Data

- Case:** SOT-23, Plastic
- Terminals:** Solderable per NIL-STD-202, Method 208
- Approx. Weight:** 0.008 gram



### Maximum Ratings and Thermal Characteristics

Parameter	Symbol	Value	Units
Power Dissipation (Notes A) at 75°C	$P_D$	500	mW
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rate load (JEDEC method) (Notes B)	$I_{FSM}$	4.0	Amps
Operating Junction and Storage Temperature Range	$T_J$	-55 to +15C	°C

Notes:

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

# Surface Mount Zener Diodes

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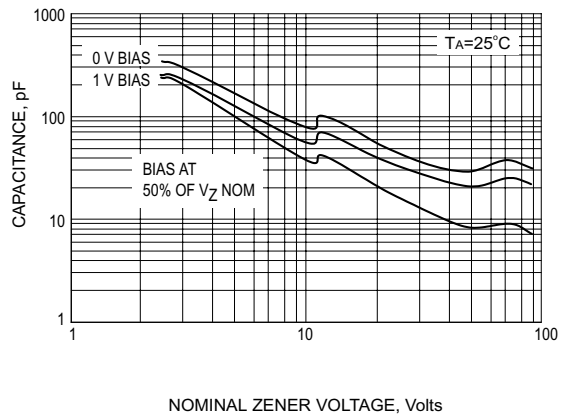
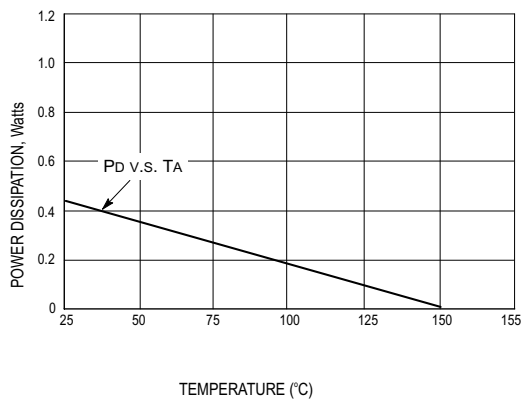
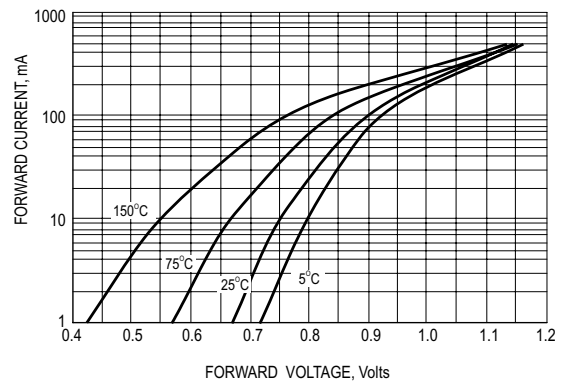
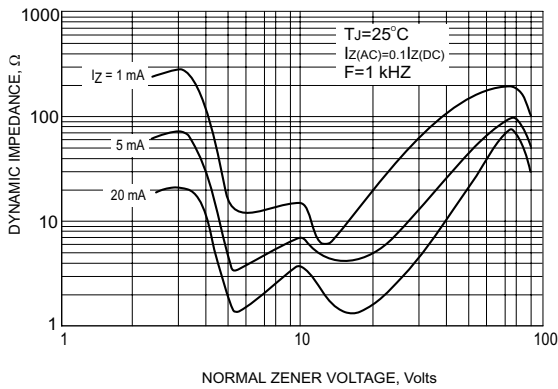
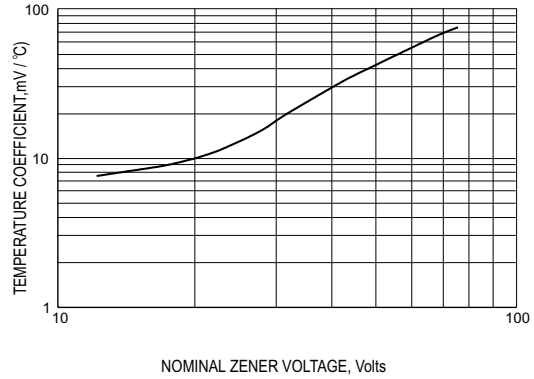
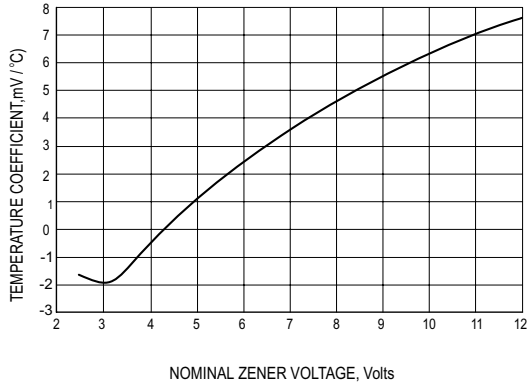
### Electrical Characteristics (TA = 25 C unless otherwise noted) VF=1.2V max, IF=100mA for all types.)

Part Number	Max. Zener Impedance			Max. Zener Impedance				Max Reverse Leakage Current		Typical Temp. Coefficient	Max. Zener current
	Vz @ IZT			ZzT @ IZT		Zzk @ Izk		IR @ VR		TC	IzM @ Ta
	Nom.V	Min.V	Max.V		mA		mA	nA	V		mA
<b>500 mWatts Zener Diodes</b>											
CZRT5221	2.4	2.28	2.52	30	20	1200	0.25	100	1	-0.070	188
CZRT5222	2.5	2.38	2.63	30	20	1250	0.25	100	1	-0.065	180
CZRT5223	2.7	2.57	2.84	30	20	1300	0.25	75	1	-0.060	167
CZRT5225	3	2.85	3.15	30	20	1600	0.25	50	1	-0.055	150
CZRT5226	3.3	3.14	3.47	28	20	1600	0.25	25	1	0.030	138
CZRT5227	3.6	3.42	3.78	25	20	1700	0.25	15	1	0.030	126
CZRT5228	3.9	3.71	4.10	23	20	1900	0.25	10	1	+0.038	115
CZRT5229	4.3	4.09	4.52	22	20	2000	0.25	5	1	+0.038	106
CZRT5230	4.7	4.47	4.94	19	20	1900	0.25	5	2	+0.045	97
CZRT5231	5.1	4.85	5.36	17	20	1600	0.25	5	2	+0.050	89
CZRT5232	5.6	5.32	5.88	11	20	1600	0.25	5	3	+0.058	81
CZRT5234	6.2	5.89	6.51	7	20	1000	0.25	5	4	+0.062	73
CZRT5235	6.8	6.46	7.14	5	20	750	0.25	3	5	+0.065	67
CZRT5236	7.5	7.13	7.88	6	20	500	0.25	3	6	+0.068	61
CZRT5237	8.2	7.79	8.61	8	20	500	0.25	3	6	+0.075	55
CZRT5239	9.1	8.65	9.56	10	20	600	0.25	3	6.5	+0.076	50
CZRT5240	10	9.50	10.50	17	20	600	0.25	3	8	+0.077	45
CZRT5241	11	10.45	11.55	22	20	600	0.25	3	8.4	+0.079	41
CZRT5242	12	11.40	12.60	30	20	600	0.25	2	9.1	+0.082	38
CZRT5243	13	12.35	13.65	13	9.5	600	0.25	1	9.9	+0.082	35
CZRT5245	15	14.25	15.75	16	8.5	600	0.25	0.5	11	+0.083	30
CZRT5246	16	15.20	16.80	17	7.8	600	0.25	0.1	12	+0.084	28
CZRT5248	18	17.10	18.90	21	7	600	0.25	0.1	14	+0.085	25
CZRT5250	20	19.00	21.00	25	6.2	600	0.25	0.1	15	+0.086	23
CZRT5251	22	20.90	23.10	29	5.6	600	0.25	0.1	17	+0.086	21
CZRT5253	24	22.80	25.20	33	5.2	600	0.25	0.1	18	+0.087	19.1
CZRT5254	27	25.65	28.35	41	5	600	0.25	0.1	21	+0.087	16.8
CZRT5255	28	26.60	29.40	44	4.5	600	0.25	0.1	21	+0.089	16.2
CZRT5256	30	28.50	31.50	49	4.2	600	0.25	0.1	23	+0.090	15.1
CZRT5257	33	31.35	34.65	58	3.8	700	0.25	0.1	25	+0.091	13.8
CZRT5258	36	34.20	37.80	70	3.4	700	0.25	0.1	27	+0.091	12.6
CZRT5259	39	37.05	40.95	80	3.2	800	0.25	0.1	30	+0.092	11.6

**NOTE:**

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$  for 'B' and  $\pm 10\%$  for 'A'
2. Specials Available Include:
  - A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
  - B. Matched sets.
3. Zener Voltage (VZ) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead the temperature (TL) at 30°C from the diode body.
4. Zener Impedance (ZZ) Derivation. The zener impedance is derived from the 60 cycle ac voltage, which results when an AC current having an rms value equal to 10% of the dc zener current (IZT or IZK) is superimposed on IZT or IZK
5. Surge Current (IR) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, IZT, per JEDEC registration; however, actual device capability is as described in Figure 5.

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