

**CMSZ5221B THRU CMSZ5261B**  
**SURFACE MOUNT**  
**SILICON ZENER DIODE**  
**275mW, 2.4 THRU 47 VOLTS**  
**5% TOLERANCE**



www.centrasemi.com

**SUPERmini™**



**SOT-323 CASE**

• Device is **Halogen Free** by design

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSZ5221B Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications. Higher voltage devices are available on special order.

**MARKING CODE: SEE MARKING CODES ON ELECTRICAL CHARACTERISTICS TABLE**

**MAXIMUM RATINGS:** (T<sub>A</sub>=25°C)

Power Dissipation  
 Operating and Storage Junction Temperature  
 Thermal Resistance

**SYMBOL**

P<sub>D</sub>  
 T<sub>J</sub>, T<sub>stg</sub>  
 θ<sub>JA</sub>

**UNITS**

275 mW  
 -65 to +150 °C  
 455 °C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C) V<sub>F</sub>=0.9V MAX @ I<sub>F</sub>=10mA (for all types)

TYPE	ZENER VOLTAGE			TEST CURRENT I <sub>ZT</sub>	MAXIMUM ZENER IMPEDANCE Z <sub>ZT</sub> @ I <sub>ZT</sub>	MAXIMUM ZENER IMPEDANCE		MAXIMUM REVERSE CURRENT		MAXIMUM TEMPERATURE COEFFICIENT θ <sub>VZ</sub>	MARKING CODE
	V <sub>Z</sub> @ I <sub>ZT</sub>					Z <sub>ZK</sub> @ I <sub>ZK</sub>	I <sub>R</sub> @ V <sub>R</sub>				
	MIN V	NOM V	MAX V	mA	Ω	Ω	mA	μA	V	%/°C	
CMSZ5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085	8A1
CMSZ5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085	8B1
CMSZ5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080	8C1
CMSZ5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080	8D1
CMSZ5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075	8E1
CMSZ5226B	3.135	3.3	3.465	20	28	1600	0.25	25	1.0	-0.070	8AC
CMSZ5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065	8BC
CMSZ5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060	8CC
CMSZ5229B	4.085	4.3	4.515	20	22	2000	0.25	5.0	1.0	±0.055	8DC
CMSZ5230B	4.465	4.7	4.935	20	19	1900	0.25	5.0	2.0	±0.030	8EC
CMSZ5231B	4.845	5.1	5.335	20	17	1600	0.25	5.0	2.0	±0.030	8FC
CMSZ5232B	5.320	5.6	5.880	20	11	1600	0.25	5.0	3.0	+0.038	8GC
CMSZ5233B	5.700	6.0	6.300	20	7.0	1600	0.25	5.0	3.5	+0.038	8HC
CMSZ5234B	5.890	6.2	6.510	20	7.0	1000	0.25	3.0	4.0	+0.045	8JC
CMSZ5235B	6.460	6.8	7.140	20	5.0	750	0.25	3.0	5.0	+0.050	8KC
CMSZ5236B	7.125	7.5	7.875	20	6.0	500	0.25	3.0	6.0	+0.058	8LC
CMSZ5237B	7.790	8.2	8.610	20	8.0	500	0.25	3.0	6.5	+0.062	8MC
CMSZ5238B	8.265	8.7	9.135	20	8.0	600	0.25	3.0	6.5	+0.065	8NC
CMSZ5239B	8.645	9.1	9.555	20	10	600	0.25	3.0	7.0	+0.068	8PC
CMSZ5240B	9.500	10	10.50	20	17	600	0.25	3.0	8.0	+0.075	8QC
CMSZ5241B	10.45	11	11.55	20	22	600	0.25	2.0	8.4	+0.076	8RC
CMSZ5242B	11.40	12	12.60	20	30	600	0.25	1.0	9.1	+0.077	8SC
CMSZ5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079	8TC
CMSZ5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082	8UC

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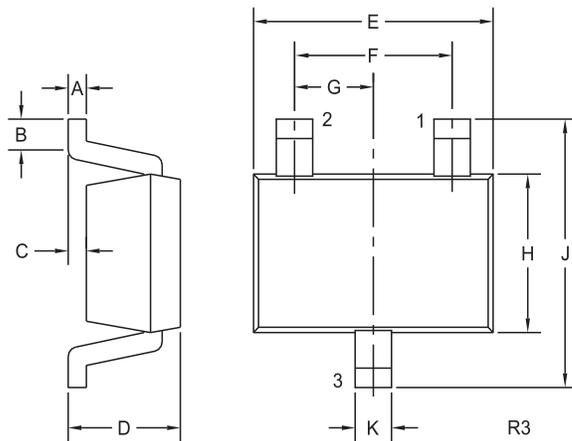
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$ )  $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$  (for all types)

TYPE	ZENER VOLTAGE			TEST CURRENT $I_{ZT}$	MAXIMUM ZENER IMPEDANCE $Z_{ZT} @ I_{ZT}$	MAXIMUM ZENER IMPEDANCE $Z_{ZK} @ I_{ZK}$	MAXIMUM REVERSE CURRENT		MAXIMUM TEMPERATURE COEFFICIENT $\theta_{VZ}$	MARKING CODE	
	$V_Z @ I_{ZT}$						$I_R @ V_R$	$V$			
	MIN V	NOM V	MAX V	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	%/°C		
CMSZ5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082	8VC
CMSZ5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083	8WC
CMSZ5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084	8XC
CMSZ5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085	8YC
CMSZ5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	14	+0.086	8ZC
CMSZ5250B	19	20	21	6.2	25	600	0.25	0.1	15	+0.086	1A8
CMSZ5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087	1B8
CMSZ5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088	1C8
CMSZ5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089	1D8
CMSZ5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090	1E8
CMSZ5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091	1F8
CMSZ5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091	1G8
CMSZ5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092	1H8
CMSZ5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093	1J8
CMSZ5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094	1K8
CMSZ5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095	1L8
CMSZ5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095	1M8

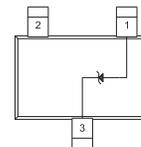
**SOT-323 CASE - MECHANICAL OUTLINE**



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.002	0.008	0.05	0.20
B	0.004	-	0.10	-
C	-	0.004	-	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.045	0.053	1.15	1.35
J	0.079	0.087	2.00	2.20
K	0.008	0.016	0.20	0.40

SOT-323 (REV: R3)

- LEAD CODE:**  
 1) Anode  
 2) No Connection  
 3) Cathode



R4 (9-February 2010)