Surface Mount Power Voltage-Regulating Diodes



DO-215AA (SMBG)

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Low Zener impedance
- Low regulation factor
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For general purpose regulation and protection applications.

PRIMARY CHARACTERISTICS	
V_Z	9.1 V to 68 V
P_D	1.5 W
I_R (V_Z > 12 V)	5.0 µA
T_J max.	150 °C

MECHANICAL DATA

Case: DO-215AA (SMBG)

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

Polarity: Color band denotes cathode end

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PART NUMBER [1]	DEVICE MARKING CODE	NOMINAL ZENER VOLTAGE V_Z AT I_{ZT} (V)	TEST CURRENT I_{ZT} (mA)	MAX. ZENER IMPEDANCE LEAKAGE CURRENT			MAX. REVERSE CURRENT I_R AT V_R		MAX. ZENER CURRENT I_{ZM} (mA) [2]
				Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}				
				(Ω)	(Ω)	(mA)	(μA)	(V)	
SMZG3788A,B	VK,L	9.1	41.2	4.0	1000	0.50	50	7.0	140
SMZG3789A,B	WA,B	10	37.5	5.0	1000	0.25	50	7.6	125
SMZG3790A,B	WC,D	11	34.1	6.0	650	0.25	10	8.4	115
SMZG3791A,B	WE,F	12	31.2	7.0	550	0.25	5.0	9.1	105
SMZG3792A,B	WG,H	13	28.8	7.5	550	0.25	5.0	9.9	98
SMZG3793A,B	WI,J	15	25.0	9.0	600	0.25	5.0	11.4	85
SMZG3794A,B	WK,L	16	23.4	10	600	0.25	5.0	12.2	80
SMZG3795A,B	XA,B	18	20.8	12	650	0.25	5.0	13.7	70
SMZG3796A,B	XC,D	20	18.7	14	650	0.25	5.0	15.2	62
SMZG3797A,B	XE,F	22	17.0	17.5	650	0.25	5.0	16.7	56
SMZG3798A,B	XG,H	24	15.6	19	700	0.25	5.0	18.2	51
SMZG3799A,B	XI,J	27	13.9	23	700	0.25	5.0	20.6	46
SMZG3800A,B	XK,L	30	12.5	26	750	0.25	5.0	22.8	41
SMZG3801A,B	YA,B	33	11.4	33	800	0.25	5.0	25.1	38
SMZG3802A,B	YC,D	36	10.4	38	850	0.25	5.0	27.4	35
SMZG3803A,B	YE,F	39	9.6	45	900	0.25	5.0	29.7	31
SMZG3804A,B	YG,H	43	8.7	53	950	0.25	5.0	32.7	28
SMZG3805A,B	YI,J	47	8.0	67	1000	0.25	5.0	35.8	26
SMZG3806A,B	YK,L	51	7.3	70	1100	0.25	5.0	38.8	24
SMZG3807A,B	ZA,B	56	6.7	86	1300	0.25	5.0	42.6	22
SMZG3808A,B	ZC,D	62	6.0	100	1500	0.25	5.0	47.1	20
SMZG3809A,B	ZE,F	68	5.5	120	1700	0.25	5.0	51.7	18

Notes:

(1) Suffix “A” denotes ± 10 % and suffix “B” denotes ± 5 %

(2) Maximum steady state power dissipation is 1.5 W at T_L = 75 °C (Fig. 1)

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMZG3788A-E3/52	0.096	52	750	7" diameter plastic tape and reel
SMZG3788A-E3/5B	0.096	5B	3200	13" diameter plastic tape and reel
SMZG3788AHE3/52 [1]	0.096	52	750	7" diameter plastic tape and reel
SMZG3788AHE3/5B [1]	0.096	5B	3200	13" diameter plastic tape and reel

Note:

(1) Automotive grade AEC Q101 qualified

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

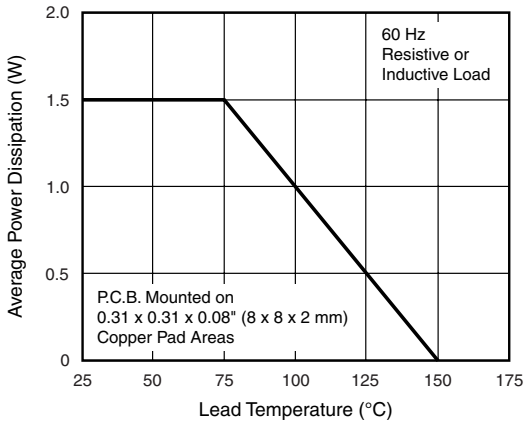


Figure 1. Maximum Continuous Power Dissipation

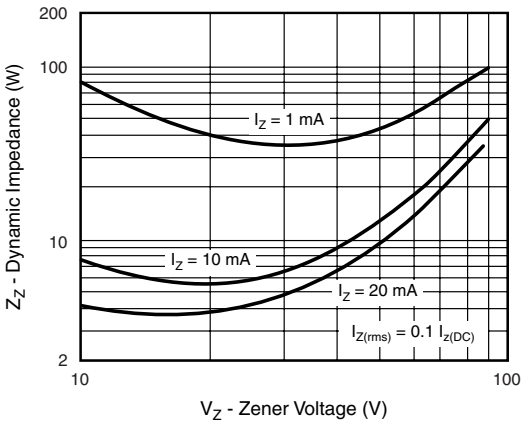


Figure 3. Typical Zener Impedance

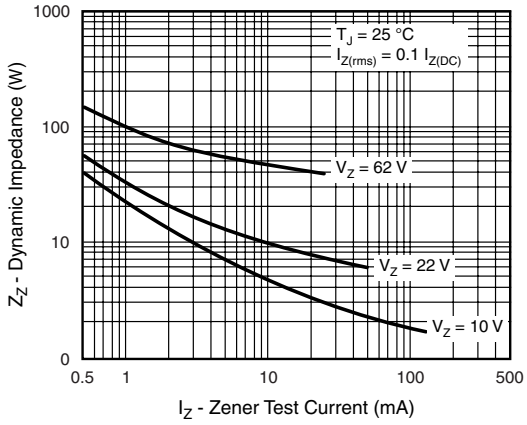


Figure 2. Typical Zener Impedance

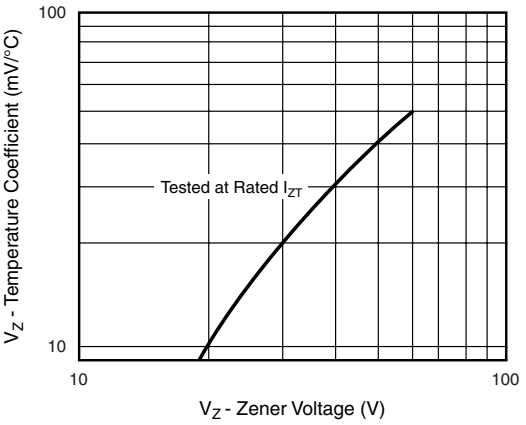
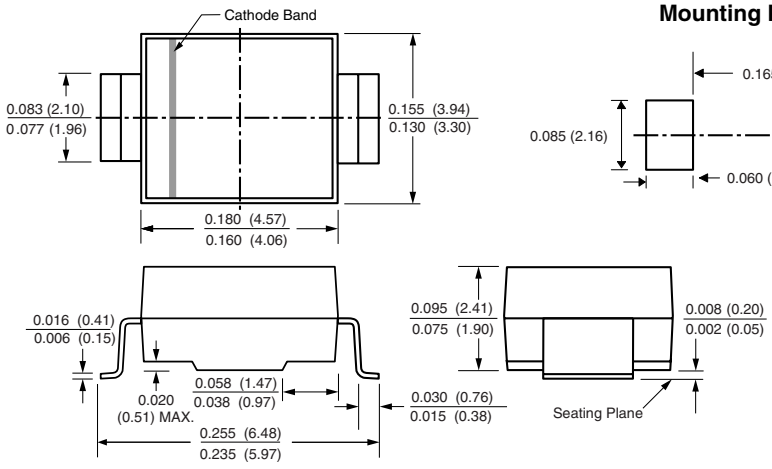


Figure 4. Typical Temperature Coefficients

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-215AA (SMBG)



Mounting Pad Layout

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