Surface-Mount Power Voltage-Regulating Diodes

SMBG (DO-215AA)

Cathode ○—|◀|—○ Anode

LINKS TO ADDITIONAL RESOURCES

3D Models

PRIMARY CHARACTERISTICS	
V_Z	9.1 V to 68 V
P_{tot}	1500 mW
I_R (V_Z > 12 V)	5.0 µA
T_J max.	150 °C
V_Z specification	Pulse current
Package	SMBG (DO-215AA)
Circuit configuration	Single

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-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

HALOGEN FREE Available

TYPICAL APPLICATIONS

For general purpose regulation, industrial, and protection applications.

MECHANICAL DATA

Case: SMBG (DO-215AA)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS compliant, industrial grade

Base P/N-M3 - halogen-free, RoHS compliant, and industrial grade

Base P/NHE3 - RoHS compliant, AEC-Q101 qualified

Base P/NHM3 - halogen-free, RoHS compliant, and AEC-Q101 qualified

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3, M3, HE3, and HM3 suffix meets JESD 201 class 2 whisker test

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	DEVICE MARKING CODE	ZENER VOLTAGE RANGE			TEST CURRENT		MAXIMUM ZENER IMPEDANCE		MAXIMUM REVERSE CURRENT		MAXIMUM ZENER CURRENT (1)
		V_Z AT I_{ZT}			I_{ZT}	I_{ZK}	Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}	I_R AT V_R		I_{ZM}
		V			mA		Ω		µA	V	mA
		MIN.	NOM.	MAX.			MAX.	MAX.	MAX.		MAX.
SMZG3788B	VL	8.65	9.1	9.56	41.2	0.50	4.0	1000	50	7.0	140
SMZG3789B	WB	9.50	10	10.5	37.5	0.25	5.0	1000	50	7.6	125
SMZG3790B	WD	10.5	11	11.6	34.1	0.25	6.0	650	10	8.4	115
SMZG3791B	WF	11.4	12	12.6	31.2	0.25	7.0	550	5.0	9.1	105
SMZG3792B	WH	12.4	13	13.7	28.8	0.25	7.5	550	5.0	9.9	98
SMZG3793B	WJ	14.3	15	15.8	25.0	0.25	9.0	600	5.0	11.4	85
SMZG3794B	WL	15.2	16	16.8	23.4	0.25	10.0	600	5.0	12.2	80
SMZG3795B	XB	17.1	18	18.9	20.8	0.25	12.0	650	5.0	13.7	70
SMZG3796B	XD	19.0	20	21.0	18.7	0.25	14.0	650	5.0	15.2	62
SMZG3797B	XF	20.9	22	23.1	17.0	0.25	17.5	650	5.0	16.7	56
SMZG3798B	XH	22.8	24	25.2	15.6	0.25	19.0	700	5.0	18.2	51
SMZG3799B	XJ	25.7	27	28.4	13.9	0.25	23.0	700	5.0	20.6	46
SMZG3800B	XL	28.5	30	31.5	12.5	0.25	26.0	750	5.0	22.8	41
SMZG3801B	YB	31.4	33	34.7	11.4	0.25	33.0	800	5.0	25.1	38
SMZG3802B	YD	34.2	36	37.8	10.4	0.25	38.0	850	5.0	27.4	35
SMZG3803B	YF	37.1	39	41.0	9.6	0.25	45.0	900	5.0	29.7	31
SMZG3804B	YH	40.9	43	45.2	8.7	0.25	53.0	950	5.0	32.7	28
SMZG3805B	YJ	44.7	47	49.4	8.0	0.25	67.0	1000	5.0	35.8	26
SMZG3806B	YL	48.5	51	53.6	7.3	0.25	70.0	1100	5.0	38.8	24
SMZG3807B	ZB	53.2	56	58.8	6.7	0.25	86.0	1300	5.0	42.6	22
SMZG3808B	ZD	58.9	62	65.1	6.0	0.25	100.0	1500	5.0	47.1	20
SMZG3809B	ZF	64.6	68	71.4	5.5	0.25	120.0	1700	5.0	51.7	18

Note

(1) Maximum steady state power dissipation is 1500 mW at T_L = 75 °C (fig. 1)

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMZG3788B-E3/52	0.096	52	750	7" diameter plastic tape and reel
SMZG3788B-M3/52	0.096	52	750	7" diameter plastic tape and reel
SMZG3788B-E3/5B	0.096	5B	3200	13" diameter plastic tape and reel
SMZG3788B-M3/5B	0.096	5B	3200	13" diameter plastic tape and reel
SMZG3788BHE3/52 (1)	0.096	52	750	7" diameter plastic tape and reel
SMZG3788BHM3/52 (1)	0.096	52	750	7" diameter plastic tape and reel
SMZG3788BHE3/5B (1)	0.096	5B	3200	13" diameter plastic tape and reel
SMZG3788BHM3/5B (1)	0.096	5B	3200	13" diameter plastic tape and reel

Note

(1) AEC-Q101 qualified

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

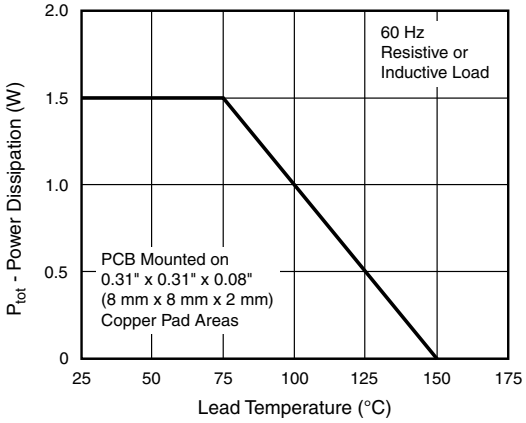


Fig. 1 - Maximum Continuous Power Dissipation

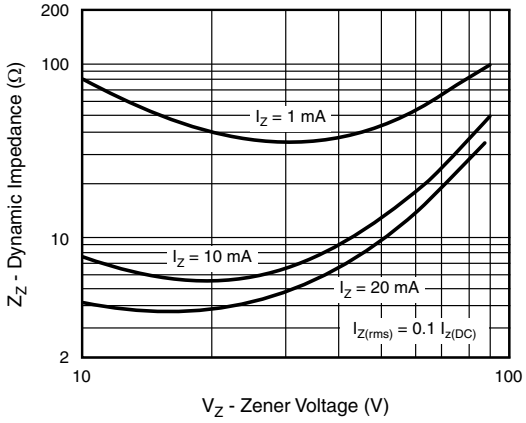


Fig. 3 - Typical Zener Impedance

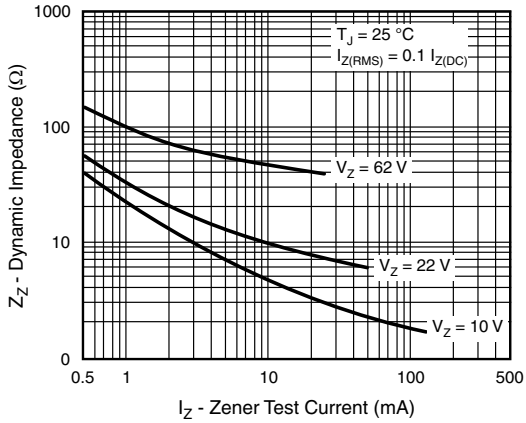


Fig. 2 - Typical Zener Impedance

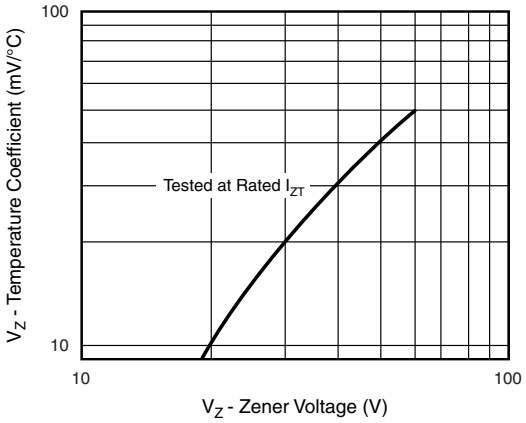
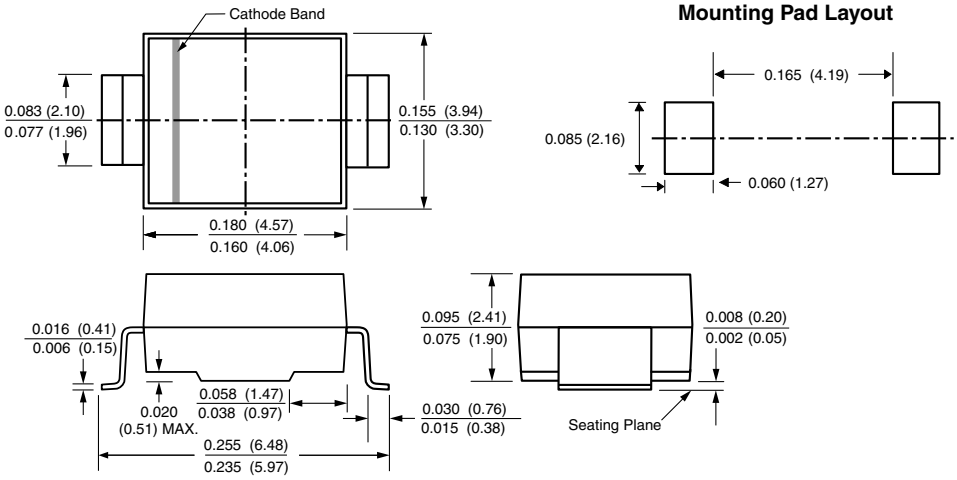


Fig. 4 - Typical Temperature Coefficients

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMBG (DO-215AA)



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