

Surface Mount Power Voltage-Regulating Diodes



DO-214AA (SMBJ)

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
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

PRIMARY CHARACTERISTICS	
V_Z	9.1 V to 68 V
P_{tot}	1500 mW
I_R ($V_Z \geq 12$ V)	5.0 μ A
T_J max.	150 °C
V_Z specification	Pulse current
Int. construction	Single

TYPICAL APPLICATIONS

For general purpose regulation and protection applications.

MECHANICAL DATA

Case: DO-214AA (SMBJ)

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant and commercial grade
Base P/NHE3 - RoHS compliant and AEC-Q101 qualified

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

E3 suffix meets JESD 201 class 1A whisker test, HE3 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** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted) ⁽²⁾

PART NUMBER ⁽¹⁾	DEVICE MARKING CODE	NOMINAL ZENER VOLTAGE V _Z AT I _{ZT}	TEST CURRENT I _{ZT}	MAXIMUM ZENER IMPEDANCE LEAKAGE CURRENT			MAXIMUM REVERSE CURRENT I _R AT V _R		MAXIMUM ZENER CURRENT I _{ZM}
				Z _{ZT} AT I _{ZT}	Z _{ZK} AT I _{ZK}				
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
SMZJ3788A,B	VK,L	9.1	41.2	4.0	1000	0.50	50	7.0	140
SMZJ3789A,B	WA,B	10	37.5	5.0	1000	0.25	50	7.6	125
SMZJ3790A,B	WC,D	11	34.1	6.0	650	0.25	10	8.4	115
SMZJ3791A,B	WE,F	12	31.2	7.0	550	0.25	5.0	9.1	105
SMZJ3792A,B	WG,H	13	28.8	7.5	550	0.25	5.0	9.9	98
SMZJ3793A,B	WI,J	15	25.0	9.0	600	0.25	5.0	11.4	85
SMZJ3794A,B	WK,L	16	23.4	10.0	600	0.25	5.0	12.2	80
SMZJ3795A,B	XA,B	18	20.8	12.0	650	0.25	5.0	13.7	70
SMZJ3796A,B	XC,D	20	18.7	14.0	650	0.25	5.0	15.2	62
SMZJ3797A,B	XE,F	22	17.0	17.5	650	0.25	5.0	16.7	56
SMZJ3798A,B	XG,H	24	15.6	19.0	700	0.25	5.0	18.2	51
SMZJ3799A,B	XI,J	27	13.9	23.0	700	0.25	5.0	20.6	46
SMZJ3800A,B	XK,L	30	12.5	26.0	750	0.25	5.0	22.8	41
SMZJ3801A,B	YA,B	33	11.4	33.0	800	0.25	5.0	25.1	38
SMZJ3802A,B	YC,D	36	10.4	38.0	850	0.25	5.0	27.4	35
SMZJ3803A,B	YE,F	39	9.6	45.0	900	0.25	5.0	29.7	31
SMZJ3804A,B	YG,H	43	8.7	53.0	950	0.25	5.0	32.7	28
SMZJ3805A,B	YI,J	47	8.0	67.0	1000	0.25	5.0	35.8	26
SMZJ3806A,B	YK,L	51	7.3	70.0	1100	0.25	5.0	38.8	24
SMZJ3807A,B	ZA,B	56	6.7	86.0	1300	0.25	5.0	42.6	22
SMZJ3808A,B	ZC,D	62	6.0	100.0	1500	0.25	5.0	47.1	20
SMZJ3809A,B	ZE,F	68	5.5	120.0	1700	0.25	5.0	51.7	18

Notes⁽¹⁾ Suffix "A" denotes $\pm 10\%$ and suffix "B" denotes $\pm 5\%$ ⁽²⁾ Maximum steady state power dissipation is 1500 mW at $T_L = 75\text{ }^{\circ}\text{C}$ (fig. 1)**ORDERING INFORMATION** (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMZJ3788A-E3/52	0.096	52	750	7" diameter plastic tape and reel
SMZJ3788A-E3/5B	0.096	5B	3200	13" diameter plastic tape and reel
SMZJ3788AHE3/52 ⁽¹⁾	0.096	52	750	7" diameter plastic tape and reel
SMZJ3788AHE3/5B ⁽¹⁾	0.096	5B	3200	13" diameter plastic tape and reel

Note⁽¹⁾ AEC-Q101 qualified

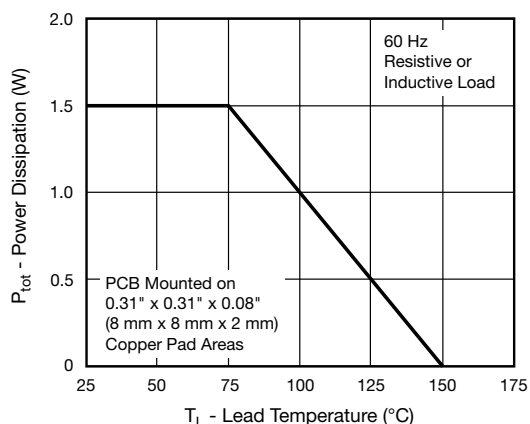
RATINGS AND CHARACTERISTICS CURVES
 $(T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)


Fig. 1 - Maximum Continuous Power Dissipation

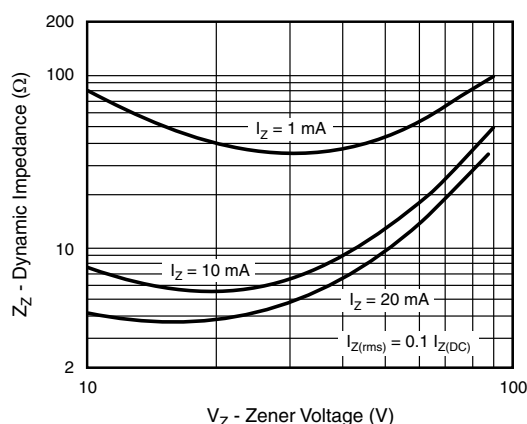


Fig. 3 - Typical Zener Impedance

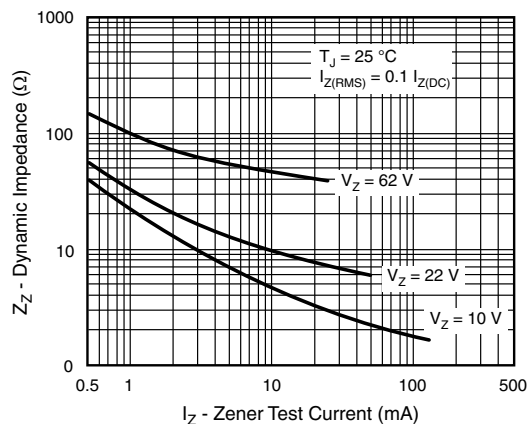


Fig. 2 - Typical Zener Impedance

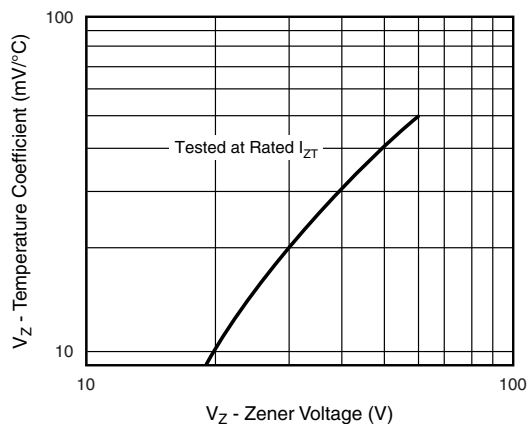
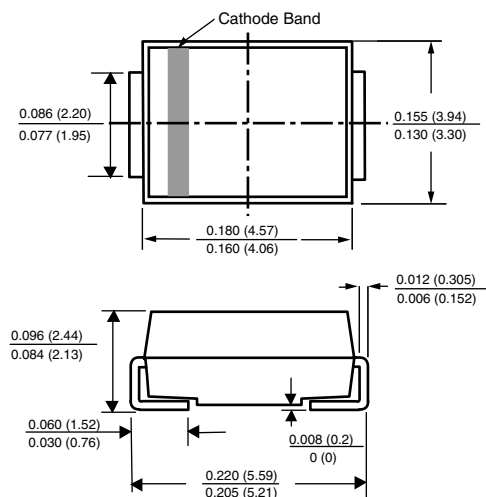
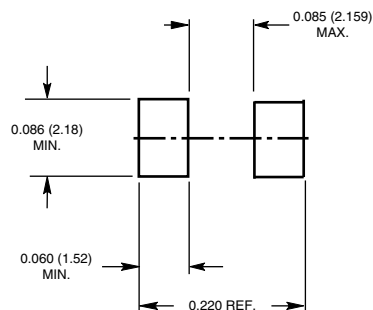


Fig. 4 - Typical Temperature Coefficients

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-214AA (SMB-J-Bend)

Mounting Pad Layout




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