

## 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
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**RoHS**  
COMPLIANT

**TYPICAL APPLICATIONS**

For general purpose regulation and protection applications.

**PRIMARY CHARACTERISTICS**

$V_Z$	9.1 V to 68 V
$P_D$	1.5 W
$I_R (V_Z \geq 12 \text{ V})$	5.0 $\mu\text{A}$
$T_J \text{ max.}$	150 °C

**MECHANICAL DATA**

**Case:** DO-214AA (SMBJ)

Molding compound meets UL 94 V-0 flammability rating

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

Base P/NHE3 - RoHS compliant, high reliability/automotive grade (AEC Q101 qualified)

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-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** ( $T_A = 25 \text{ °C}$  unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150	°C

# SMZJ3788 thru SMZJ3809B

Vishay General Semiconductor



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)									
PART NUMBER	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)
				$Z_{ZT}$ AT $I_{ZT}$	$Z_{ZK}$ AT $I_{ZK}$		$I_R$ AT $V_R$	$I_R$ AT $V_R$	
					( $\Omega$ )	( $\Omega$ )			
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 1.5 W at  $T_L = 75\text{ }^\circ\text{C}$  (Fig. 1)

<b>ORDERING INFORMATION</b> (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 <sup>(1)</sup>	0.096	52	750	7" diameter plastic tape and reel
SMZJ3788AHE3/5B <sup>(1)</sup>	0.096	5B	3200	13" diameter plastic tape and reel

**Note:**

- (1) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

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

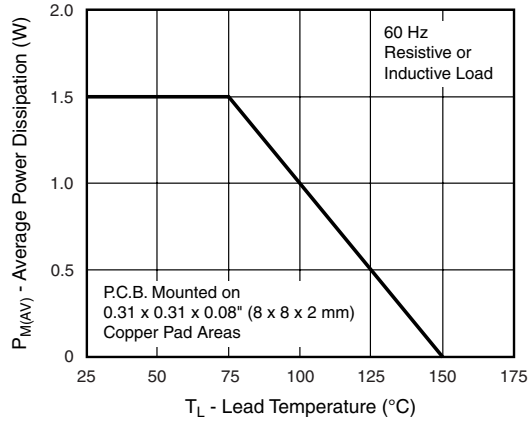


Figure 1. Maximum Continuous Power Dissipation

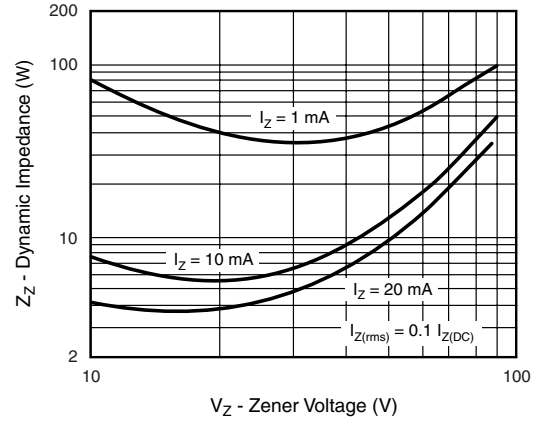


Figure 3. Typical Zener Impedance

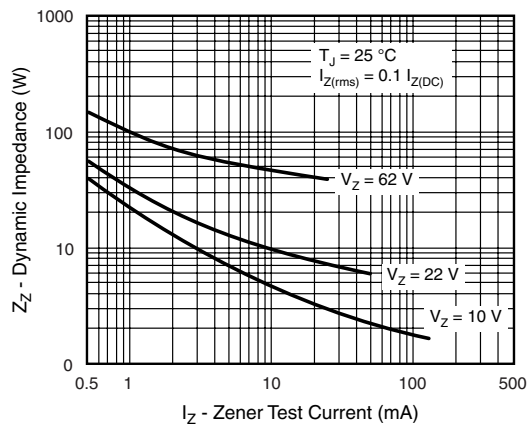


Figure 2. Typical Zener Impedance

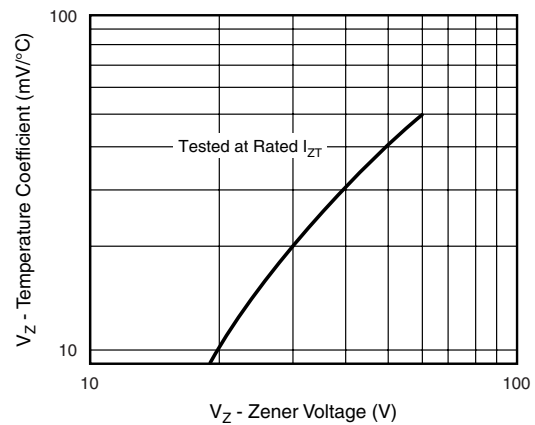
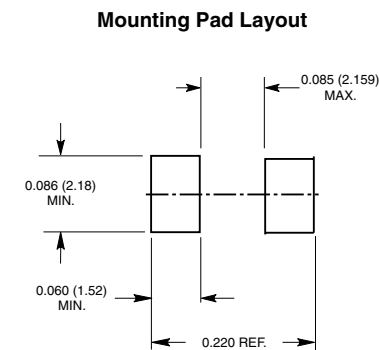
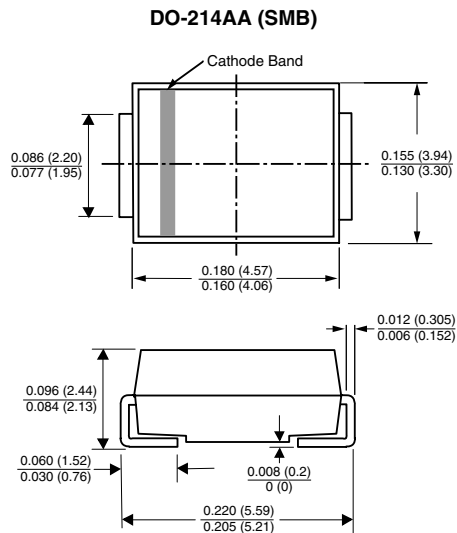


Figure 4. Typical Temperature Coefficients

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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