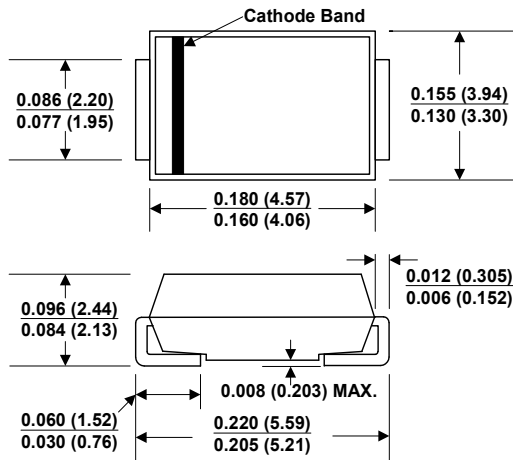


3SMBJ5921B~5943B Zener SERIES

SURFACE MOUNT ZENER ZENER VOLTAGE - 6.8 TO 56 Volts 3.0 Watt DC Peak Power

DO-214AA (SMB J-Bend)



Dimensions in inches and (millimeters)

FEATURES

- ⊙ Super miniature case
- ⊙ 200 Watts of TVS power
- ⊙ Halogen-Free
- ⊙ RoHS compliant
- ⊙ $\pm 5\%$ Vz tolerance
- ⊙ Superior lot to lot consistency
- ⊙ High Temperature soldering: 260°C/10 seconds at terminals
- ⊙ Plastic package has Underwriters Laboratory Flammability 94V-O
- ⊙ Matte Tin Lead-free plated

MECHANICAL DATA

Case: JEDEC DO214AA. Molded plastic over glass passivated junction

Terminal: Solderable per MIL-STD-750, Method 2026

Polarity: Color band denoted positive end (cathode)

Standard Packaging: 12mm tape (EIA STD RS-481)

Weight : 0.003ounce, 0.093gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000µs waveform (Note 1,2 ,FIG.1)	P_{PPM}	Minimum 200	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2,3)	I_{FSM}	20	Amps
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	°C

Notes :

1. Non-repetitive current pulse per Fig. 3 and steady state power derating curve per Fig. 2 .
2. Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal
3. 8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.
4. 1.5Watt DC Power Dissipation ($T_L \leq 75^\circ\text{C}$)
5. Forward Voltage @ 200mA: 1.5 Volts

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TYPE	Device Marking Code	ZENER VOLTAGE $V_Z @ I_{ZT}$			TEST CURRENT	MAXIMUM ZENER IMPEDANCE			MAXIMUM REVERSE CURRENT		MAXIMUM DC ZENER CURRENT
		MIN	NOM	MAX	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}
		V	V	V	mA	Ω	Ω	mA	μA	V	mA
3SMBJ5921B	H21B	6.46	6.8	7.14	55.1	2.5	200	1.00	5.0	5.2	440
3SMBJ5922B	H22B	7.13	7.5	7.88	50.0	3.0	400	0.50	5.0	6.0	400
3SMBJ5923B	H23B	7.79	8.2	8.61	45.7	3.5	400	0.50	5.0	6.5	364
3SMBJ5924B	H24B	8.65	9.1	9.56	41.2	4.0	500	0.50	5.0	7.0	328
3SMBJ5925B	H25B	9.50	10	10.50	37.5	4.5	500	0.25	5.0	8.0	300
3SMBJ5926B	H26B	10.5	11.0	11.6	34.1	5.5	550	0.25	1.0	8.4	272
3SMBJ5927B	H27B	11.4	12.0	12.6	31.2	6.5	550	0.25	1.0	9.1	250
3SMBJ5928B	H28B	12.4	13.0	13.7	28.8	7.0	550	0.25	1.0	9.9	230
3SMBJ5929B	H29B	14.3	15.0	15.8	25.0	9.0	600	0.25	1.0	11.4	200
3SMBJ5930B	H30B	15.2	16.0	16.8	23.4	10.0	600	0.25	1.0	12.2	186
3SMBJ5931B	H31B	17.1	18.0	18.9	20.8	12	650	0.25	1.0	13.7	166
3SMBJ5932B	H32B	19.0	20.0	21.0	18.7	14	650	0.25	1.0	15.2	150
3SMBJ5933B	H33B	20.9	22.0	23.1	17.0	18	650	0.25	1.0	16.7	136
3SMBJ5934B	H34B	22.8	24.0	25.2	15.6	19	700	0.25	1.0	18.2	124
3SMBJ5935B	H35B	25.7	27.0	28.4	13.9	23	700	0.25	1.0	20.6	110
3SMBJ5936B	H36B	28.5	30.0	31.5	12.5	28	750	0.25	1.0	22.8	100
3SMBJ5937B	H37B	31.4	33.0	34.7	11.4	33	800	0.25	1.0	25.1	90
3SMBJ5938B	H38B	34.2	36.0	37.8	10.4	38	850	0.25	1.0	27.4	82
3SMBJ5939B	H39B	37.1	39.0	41.0	9.6	45	900	0.25	1.0	29.7	76
3SMBJ5940B	H40B	40.9	43.0	45.2	8.7	53	950	0.25	1.0	32.7	68
3SMBJ5941B	H41B	44.7	47.0	49.4	8.0	67	1000	0.25	1.0	35.8	62
3SMBJ5942B	H42B	48.5	51.0	53.6	7.3	70	1100	0.25	1.0	38.8	58
3SMBJ5943B	H43B	53.2	56.0	58.8	6.7	86	1300	0.25	1.0	42.6	52

3SMBJ5921B~5943B Zener SERIES

RATINGS AND CHARACTERISTIC CURVES

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

Fig. 1 - Peak Pulse Power Rating

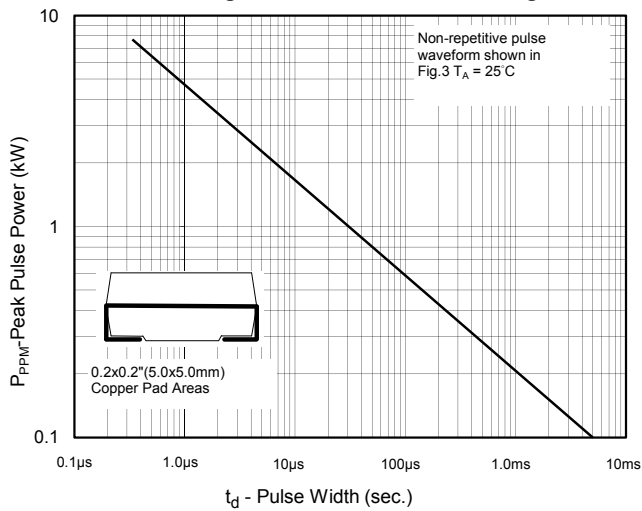


Fig. 2 - Steady State Power Derating Curve

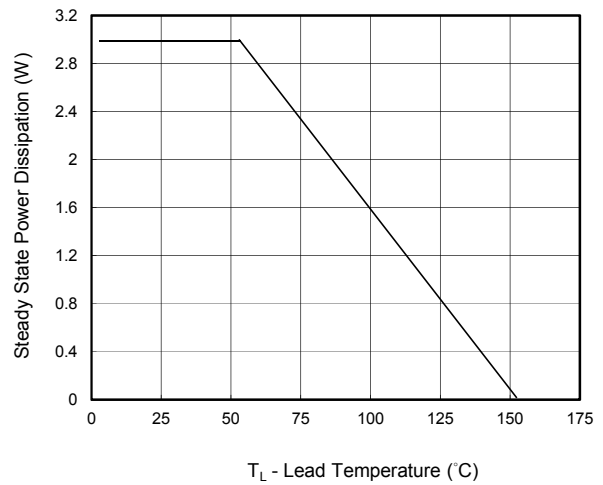


Fig.3 - Pulse Waveform

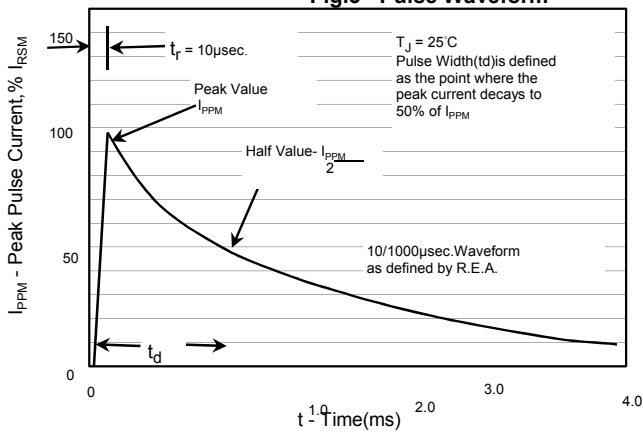
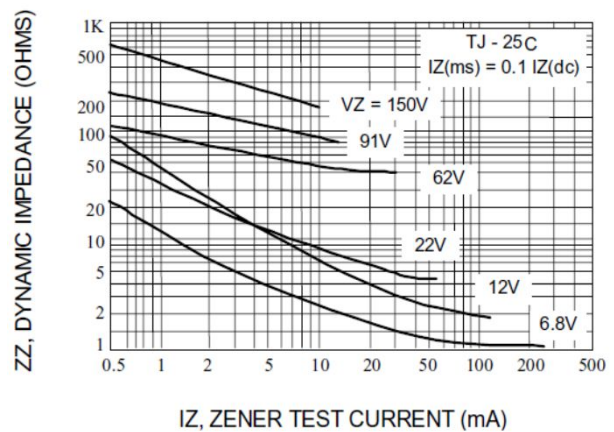
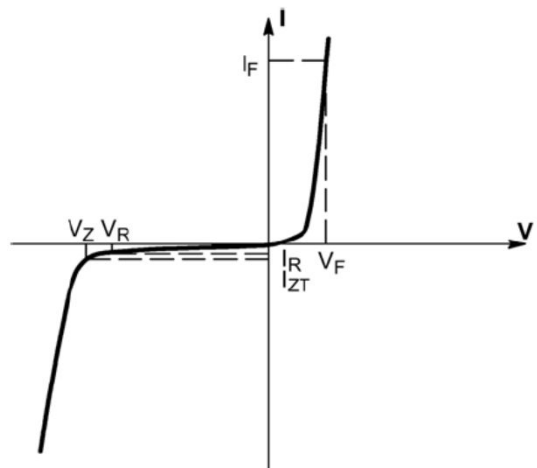


Fig.4 Effect Of Zener Current



Characteristics ($T_J=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter
V_Z	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum zener impedance @ I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum zener impedance @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Breakdown voltage
I_F	Forward current
V_F	Forward voltage @ I_F

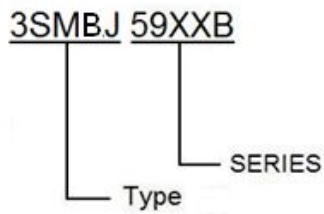


Zener voltage regulator

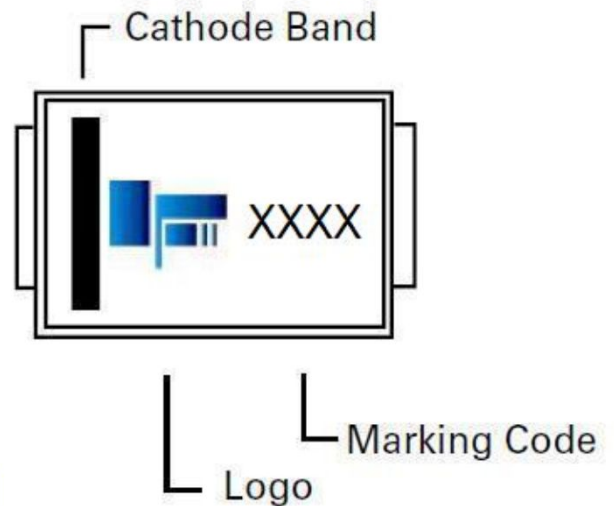
3SMBJ5921B~5943B Zener SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
3SMBJxxxxB	DO-214AA	3000	Tape & Reel - 12mm/13" tape	EIA STD RS-481
3SMBJxxxxB	DO-214AA	500	Tape & Reel - 12mm/ 7" tape	EIA STD RS-481