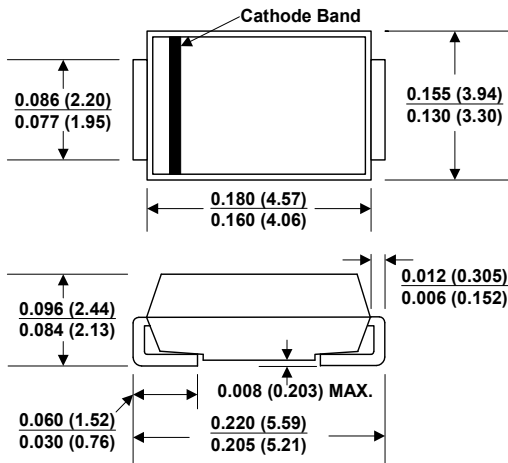


SMBJ5921B~5956B Zener SERIES

SURFACE MOUNT ZENER ZENER VOLTAGE - 6.8 TO 200 Volts 1.5 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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SURFACE MOUNT ZENER

ZENER VOLTAGE - 6.8 TO 200 Volts

1.5 Watt DC Peak Power

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	μ A	V	mA
SMBJ5921B	921B	6.46	6.8	7.14	55.1	2.5	200	1.00	5.0	5.2	221
SMBJ5922B	922B	7.13	7.5	7.88	50.0	3.0	400	0.50	5.0	6.0	200
SMBJ5923B	923B	7.79	8.2	8.61	45.7	3.5	400	0.50	5.0	6.5	183
SMBJ5924B	924B	8.65	9.1	9.56	41.2	4.0	500	0.50	5.0	7.0	165
SMBJ5925B	925B	9.50	10	10.50	37.5	4.5	500	0.25	5.0	8.0	150
SMBJ5926B	926B	10.5	11.0	11.6	34.1	5.5	550	0.25	1.0	8.4	136
SMBJ5927B	927B	11.4	12.0	12.6	31.2	6.5	550	0.25	1.0	9.1	125
SMBJ5928B	928B	12.4	13.0	13.7	28.8	7.0	550	0.25	1.0	9.9	115
SMBJ5929B	929B	14.3	15.0	15.8	25.0	9.0	600	0.25	1.0	11.4	100
SMBJ5930B	930B	15.2	16.0	16.8	23.4	10.0	600	0.25	1.0	12.2	94
SMBJ5931B	931B	17.1	18.0	18.9	20.8	12	650	0.25	1.0	13.7	83
SMBJ5932B	932B	19.0	20.0	21.0	18.7	14	650	0.25	1.0	15.2	75
SMBJ5933B	933B	20.9	22.0	23.1	17.0	18	650	0.25	1.0	16.7	68
SMBJ5934B	934B	22.8	24.0	25.2	15.6	19	700	0.25	1.0	18.2	63
SMBJ5935B	935B	25.7	27.0	28.4	13.9	23	700	0.25	1.0	20.6	56
SMBJ5936B	936B	28.5	30.0	31.5	12.5	28	750	0.25	1.0	22.8	50
SMBJ5937B	937B	31.4	33.0	34.7	11.4	33	800	0.25	1.0	25.1	45
SMBJ5938B	938B	34.2	36.0	37.8	10.4	38	850	0.25	1.0	27.4	42
SMBJ5939B	939B	37.1	39.0	41.0	9.6	45	900	0.25	1.0	29.7	38
SMBJ5940B	940B	40.9	43.0	45.2	8.7	53	950	0.25	1.0	32.7	35
SMBJ5941B	941B	44.7	47.0	49.4	8.0	67	1000	0.25	1.0	35.8	32
SMBJ5942B	942B	48.5	51.0	53.6	7.3	70	1100	0.25	1.0	38.8	29
SMBJ5943B	943B	53.2	56.0	58.8	6.7	86	1300	0.25	1.0	42.6	27
SMBJ5944B	944B	58.9	62.0	65.1	6.0	100	1500	0.25	1.0	47.1	24
SMBJ5945B	945B	64.6	68.0	71.4	5.5	120	1700	0.25	1.0	51.7	22
SMBJ5946B	946B	71.3	75.0	78.8	5.0	140	2000	0.25	1.0	56	20
SMBJ5947B	947B	77.9	82.0	86.1	4.6	160	2500	0.25	1.0	62.2	18
SMBJ5948B	948B	86.5	91.0	95.6	4.1	200	3000	0.25	1.0	69.2	16
SMBJ5949B	949B	95.0	100.0	105.0	3.7	250	3100	0.25	1.0	76	15
SMBJ5950B	950B	105	110	116	3.4	300	4000	0.25	1.0	83.6	13
SMBJ5951B	951B	114	120	126	3.1	360	4500	0.25	1.0	91.2	12
SMBJ5952B	952B	124	130	137	2.9	450	5000	0.25	1.0	98.8	11
SMBJ5953B	953B	143	150	158	2.5	600	6000	0.25	1.0	114	10
SMBJ5954B	954B	152	160	168	2.3	700	6500	0.25	1.0	121.6	9
SMBJ5955B	955B	171	180	189	2.1	900	7000	0.25	1.0	136.8	8
SMBJ5956B	956B	190	200	210	1.9	1200	8000	0.25	1.0	152	7

SMBJ5921B~5956B 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

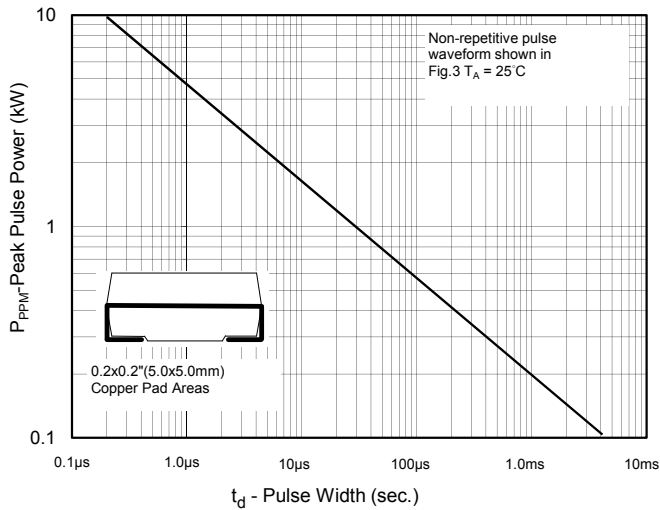


Fig. 2 - Steady State Power Derating Curve

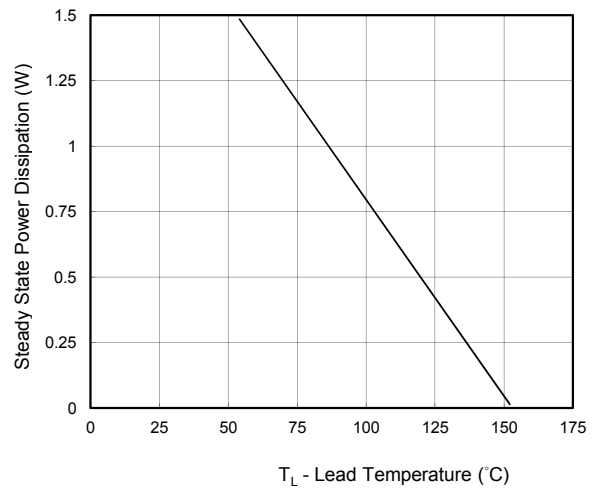


Fig. 3 - Pulse Waveform

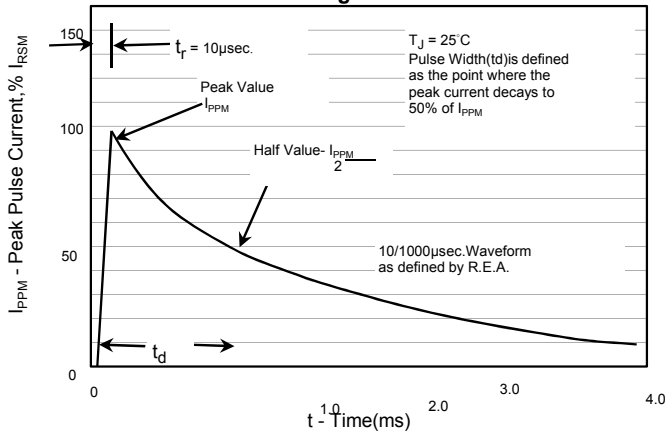
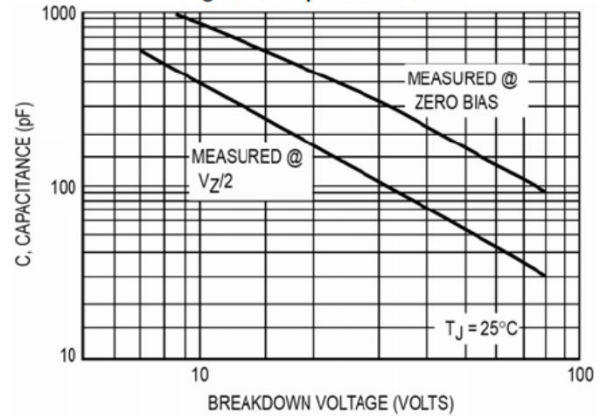
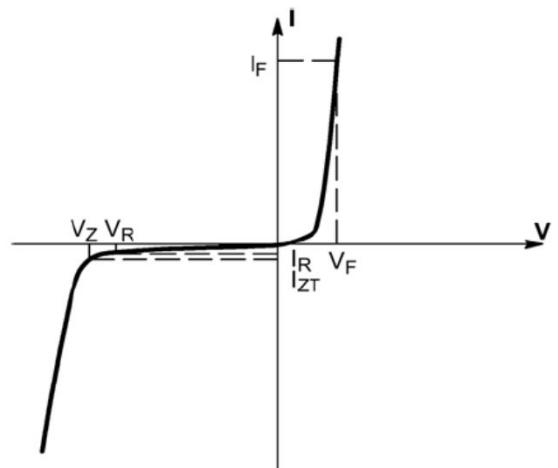


Figure 4. Capacitance curve



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

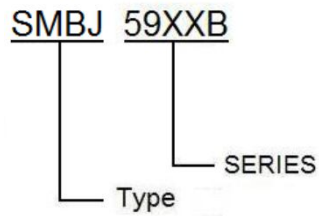


Zener voltage regulator

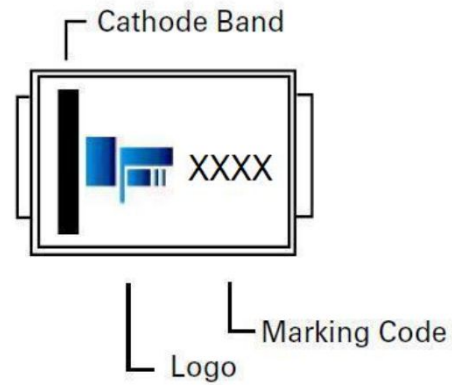
SMBJ5921B~5956B Zener SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

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