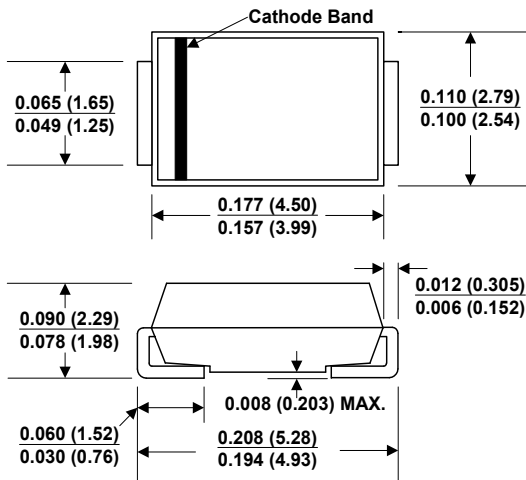


SMAJ5921B~5956B Zener SERIES

SURFACE MOUNT ZENER ZENER VOLTAGE - 6.8 TO 200 Volts 1.5 Watt DC Peak Power

DO-214AC (SMA)



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 DO214AC. 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: 0.002 ounce, 0.061 gram

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
6. Thermal Resistance Junction to Lead: 50°C/W
7. Thermal Resistance Junction to Ambient : 139°C/W

SMAJ5921B~5956B Zener SERIES

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	μA	V	mA
SMAJ5921B	21B	6.46	6.8	7.14	55.1	2.5	200	1.00	5.0	5.2	221
SMAJ5922B	22B	7.13	7.5	7.88	50.0	3.0	400	0.50	5.0	6.0	200
SMAJ5923B	23B	7.79	8.2	8.61	45.7	3.5	400	0.50	5.0	6.5	183
SMAJ5924B	24B	8.65	9.1	9.56	41.2	4.0	500	0.50	5.0	7.0	165
SMAJ5925B	25B	9.50	10	10.50	37.5	4.5	500	0.25	5.0	8.0	150
SMAJ5926B	26B	10.5	11.0	11.6	34.1	5.5	550	0.25	1.0	8.4	136
SMAJ5927B	27B	11.4	12.0	12.6	31.2	6.5	550	0.25	1.0	9.1	125
SMAJ5928B	28B	12.4	13.0	13.7	28.8	7.0	550	0.25	1.0	9.9	115
SMAJ5929B	29B	14.3	15.0	15.8	25.0	9.0	600	0.25	1.0	11.4	100
SMAJ5930B	30B	15.2	16.0	16.8	23.4	10.0	600	0.25	1.0	12.2	94
SMAJ5931B	31B	17.1	18.0	18.9	20.8	12	650	0.25	1.0	13.7	83
SMAJ5932B	32B	19.0	20.0	21.0	18.7	14	650	0.25	1.0	15.2	75
SMAJ5933B	33B	20.9	22.0	23.1	17.0	18	650	0.25	1.0	16.7	68
SMAJ5934B	34B	22.8	24.0	25.2	15.6	19	700	0.25	1.0	18.2	63
SMAJ5935B	35B	25.7	27.0	28.4	13.9	23	700	0.25	1.0	20.6	56
SMAJ5936B	36B	28.5	30.0	31.5	12.5	28	750	0.25	1.0	22.8	50
SMAJ5937B	37B	31.4	33.0	34.7	11.4	33	800	0.25	1.0	25.1	45
SMAJ5938B	38B	34.2	36.0	37.8	10.4	38	850	0.25	1.0	27.4	42
SMAJ5939B	39B	37.1	39.0	41.0	9.6	45	900	0.25	1.0	29.7	38
SMAJ5940B	40B	40.9	43.0	45.2	8.7	53	950	0.25	1.0	32.7	35
SMAJ5941B	41B	44.7	47.0	49.4	8.0	67	1000	0.25	1.0	35.8	32
SMAJ5942B	42B	48.5	51.0	53.6	7.3	70	1100	0.25	1.0	38.8	29
SMAJ5943B	43B	53.2	56.0	58.8	6.7	86	1300	0.25	1.0	42.6	27
SMAJ5944B	44B	58.9	62.0	65.1	6.0	100	1500	0.25	1.0	47.1	24
SMAJ5945B	45B	64.6	68.0	71.4	5.5	120	1700	0.25	1.0	51.7	22
SMAJ5946B	46B	71.3	75.0	78.8	5.0	140	2000	0.25	1.0	56	20
SMAJ5947B	47B	77.9	82.0	86.1	4.6	160	2500	0.25	1.0	62.2	18
SMAJ5948B	48B	86.5	91.0	95.6	4.1	200	3000	0.25	1.0	69.2	16
SMAJ5949B	49B	95.0	100.0	105.0	3.7	250	3100	0.25	1.0	76	15
SMAJ5950B	50B	105	110	116	3.4	300	4000	0.25	1.0	83.6	13
SMAJ5951B	51B	114	120	126	3.1	360	4500	0.25	1.0	91.2	12
SMAJ5952B	52B	124	130	137	2.9	450	5000	0.25	1.0	98.8	11
SMAJ5953B	53B	143	150	158	2.5	600	6000	0.25	1.0	114	10
SMAJ5954B	54B	152	160	168	2.3	700	6500	0.25	1.0	121.6	9
SMAJ5955B	55B	171	180	189	2.1	900	7000	0.25	1.0	136.8	8
SMAJ5956B	56B	190	200	210	1.9	1200	8000	0.25	1.0	152	7

SMAJ5921B~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

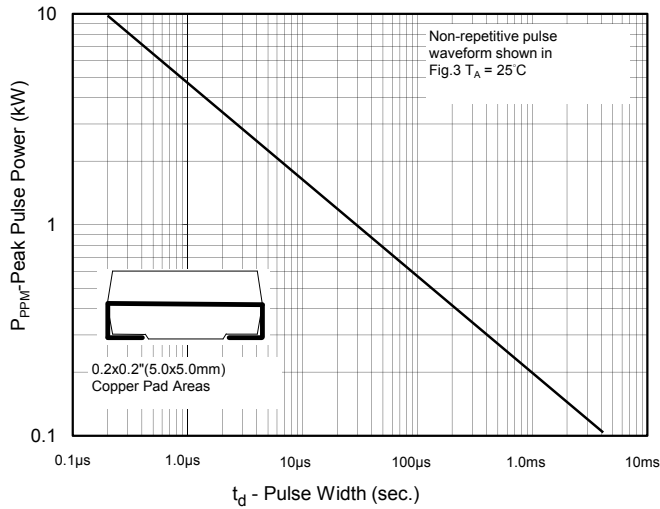


Fig. 2 - Steady State Power Derating Curve

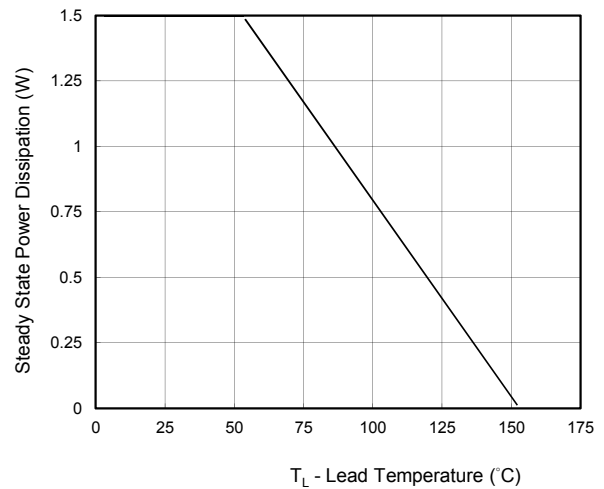


Fig. 3 - Pulse Waveform

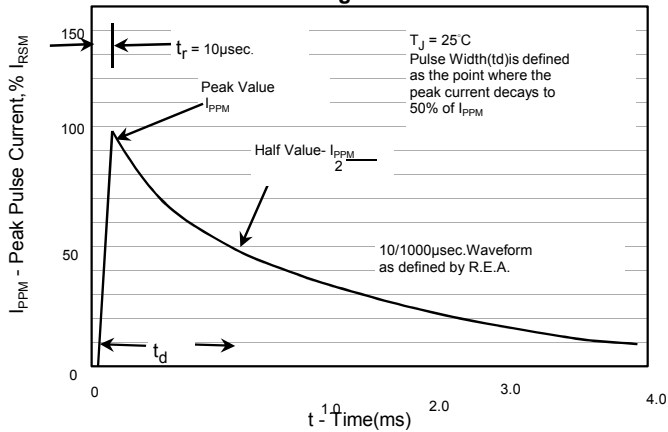
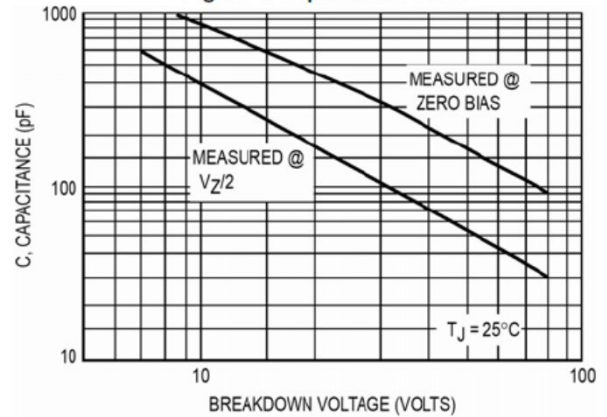
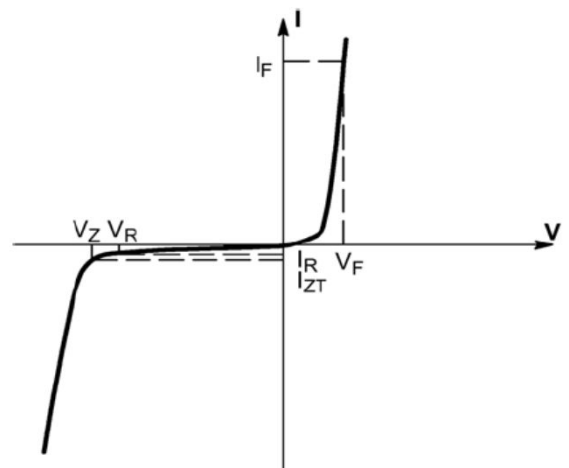


Figure 4. Capacitance curve



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

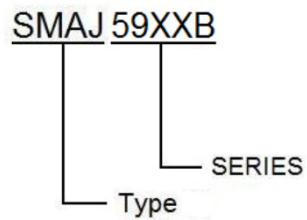


Zener voltage regulator

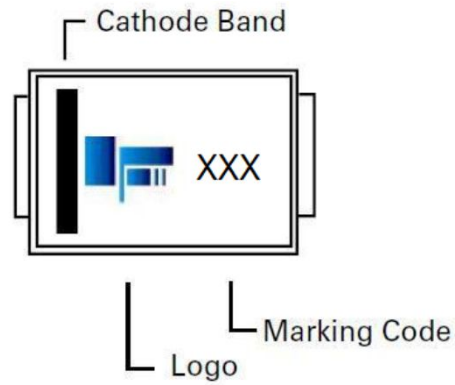
SMAJ5921B~5956B Zener SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SMAJxxxB	DO-214AC	5000	Tape & Reel - 12mm/13" tape	EIA STD RS-481
SMAJxxxB	DO-214AC	1000	Tape & Reel - 12mm/ 7" tape	EIA STD RS-481