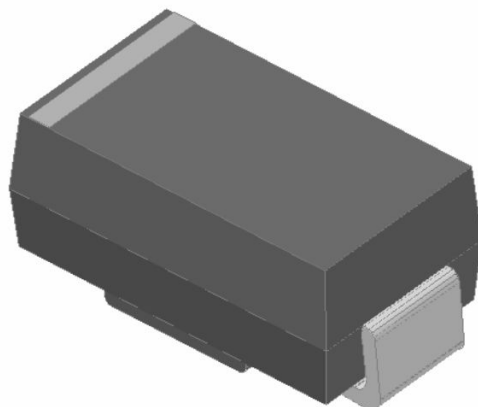


1.5W SURFACE MOUNT POWER ZENER DIODE

■ Features

- 1.5W Power Dissipation
- Ideally Suited for Automated Assembly
- 5.6V - 68V Nominal Zener Voltage Range
- Standard VZ Tolerance is $\pm 5\%$
- ESD Rating of Class 3 ($>8\text{kV}$) per Human Body Model
- Lead-Free Finish; RoHS Compliant
- AEC-Q101 qualified available



■ Mechanical Data

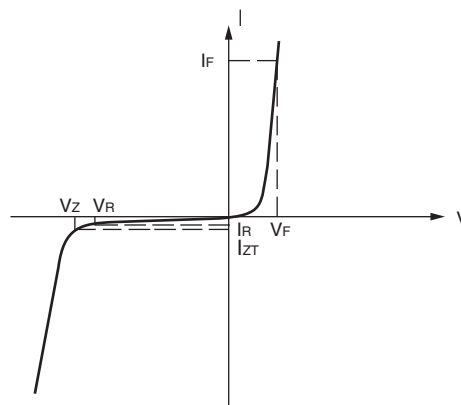
- Case: SMA
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Copper Alloy Leadframe with Lead-Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Maximum steady state power dissipation at $T_L = 75^\circ\text{C}$ (fig. 1) ⁽¹⁾	P_{tot}	1500	mW
Maximum steady state power dissipation at $T_A = 25^\circ\text{C}$ (fig. 1) ⁽²⁾	P_{tot}	500	mW
Maximum instantaneous forward voltage at 200 mA for all types ⁽³⁾	V_F	1.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Notes

- (1) Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal
 (2) Mounted on minimum recommended pad layout
 (3) Pulse test: 300 μs pulse width, 1 % duty cycle

ELECTRICAL CHARACTERISTICS	
SYMBOL	PARAMETER
V_Z	Reverse Zener voltage at I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum Zener impedance at I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum Zener impedance at I_{ZK}
I_R	Reverse leakage current at V_R
V_R	Reverse voltage
I_F	Forward current
V_F	Forward voltage at I_F
I_{ZM}	Maximum DC Zener current



Zener Voltage Regulator

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

PART NUMBER	DEVICE MARKING CODE	ZENER VOLTAGE RANGE			TEST CURRENT		MAXIMUM ZENER IMPEDANCE		REVERSE LEAKAGE CURRENT		MAXIMUM ZENER CURRENT
		V_Z AT I_{ZT}			I_{ZT}	I_{ZK}	Z_{ZT} AT I_{ZT}	Z_{ZK} AT I_{ZK}	I_R AT V_R		I_{ZM}
		V			mA		Ω		μA	V	mA
		MIN.	NOM.	MAX.			MAX.	MAX.	MAX.		MAX.
SMAZ5919B	19B	5.32	5.6	5.88	66.9	1.0	5.0	700	200	3.0	268
SMAZ5920B	20B	5.89	6.2	6.51	60.5	1.0	2.0	700	200	4.0	242
SMAZ5921B	21B	6.46	6.8	7.14	55.1	1.0	2.5	400	200	5.2	221
SMAZ5922B	22B	7.12	7.5	7.88	50.0	0.5	3.0	400	200	6.0	200
SMAZ5923B	23B	7.79	8.2	8.61	45.7	0.5	5.0	700	10	6.5	183
SMAZ5924B	24B	8.64	9.1	9.56	41.2	0.5	5.0	700	10	7.0	165
SMAZ5925B	25B	9.5	10	10.5	37.5	0.25	5.0	700	10	8.0	150
SMAZ5926B	26B	10.5	11	11.6	34.1	0.25	5.5	550	5	8.4	136
SMAZ5927B	27B	11.4	12	12.6	31.2	0.25	6.5	550	1	9.1	125
SMAZ5928B	28B	12.4	13	13.7	28.8	0.25	7.0	550	1	9.9	115
SMAZ5929B	29B	14.3	15	15.8	25.0	0.25	9.0	600	1	11.4	100
SMAZ5930B	30B	15.2	16	16.8	23.4	0.25	10	600	1	12.2	94
SMAZ5931B	31B	17.1	18	18.9	20.8	0.25	12	650	1	13.7	83
SMAZ5932B	32B	19.0	20	21.0	18.7	0.25	14	650	1	15.2	75
SMAZ5933B	33B	20.9	22	23.1	17.0	0.25	17.5	650	1	16.7	68
SMAZ5934B	34B	22.8	24	25.2	15.6	0.25	19	700	1	18.2	62
SMAZ5935B	35B	25.7	27	28.4	13.9	0.25	23	700	1	20.6	56
SMAZ5936B	36B	28.5	30	31.5	12.5	0.25	28	750	1	22.8	50
SMAZ5937B	37B	31.4	33	34.7	11.4	0.25	33	800	1	25.1	45
SMAZ5938B	38B	34.2	36	37.8	10.4	0.25	38	850	1	27.4	42
SMAZ5939B	39B	37.1	39	41.0	9.6	0.25	45	900	1	29.7	38
SMAZ5940B	40B	40.9	43	45.2	8.7	0.25	53	950	1	32.7	35
SMAZ5941B	41B	44.65	47	49.35	8.0	0.25	67	1000	1	35.8	32
SMAZ5942B	42B	48.45	51	53.55	7.3	0.25	70	1100	1	38.8	29
SMAZ5943B	43B	53.2	56	58.8	6.7	0.25	86	1300	1	42.6	27
SMAZ5944B	44B	58.9	62	65.1	6.0	0.25	100	1500	1	47.1	24
SMAZ5945B	45B	64.6	68	71.4	5.5	0.25	120	1700	1	51.7	22

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

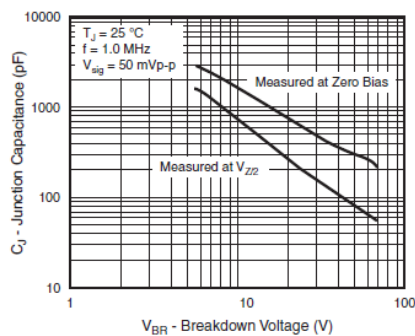
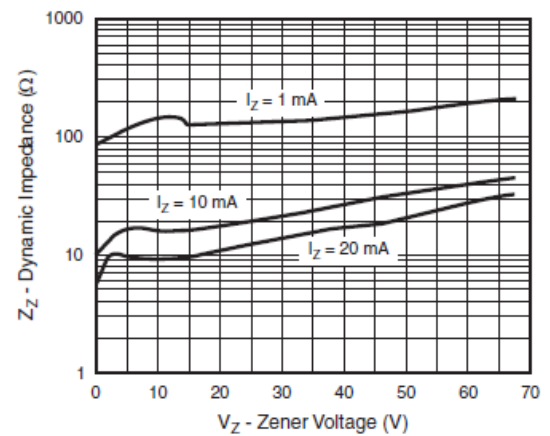
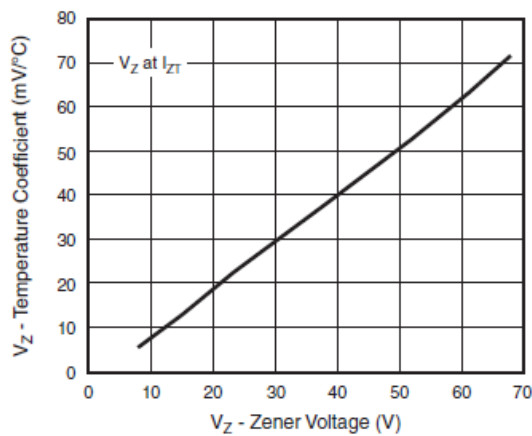
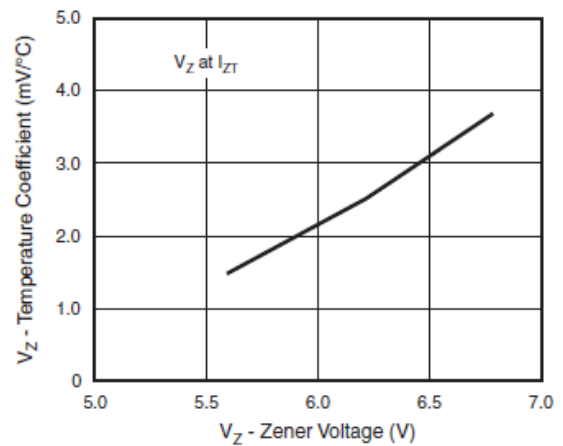
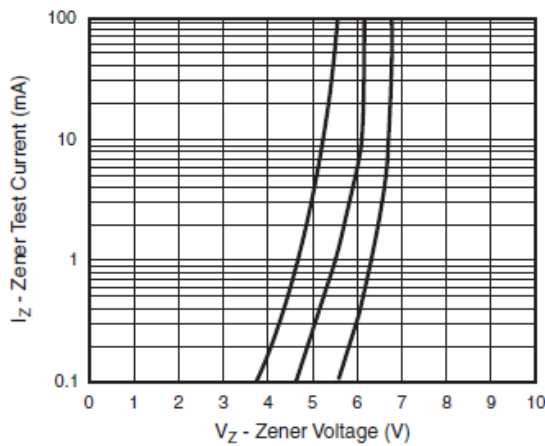
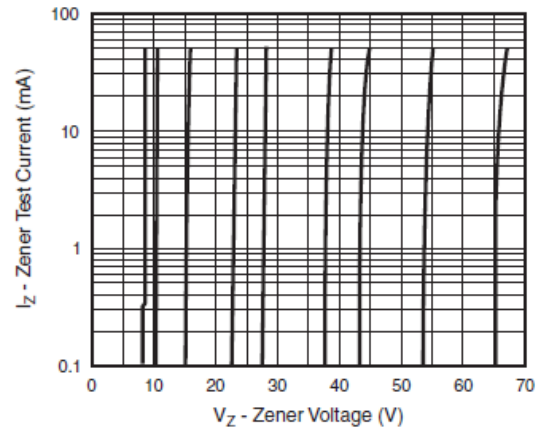
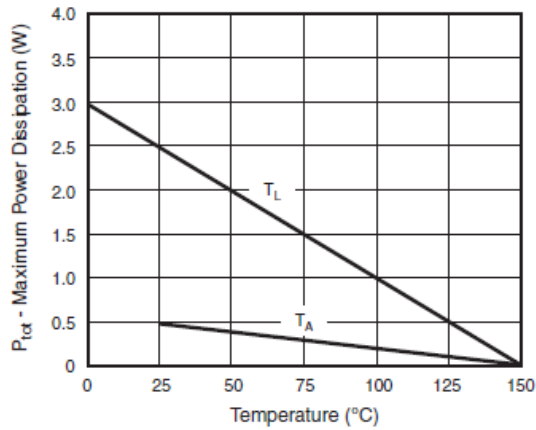
PARAMETER	SYMBOL	LIMIT	UNIT
Typical thermal resistance, junction to lead	$R_{\theta JL}^{(1)}$	50	$^{\circ}\text{C/W}$
Typical thermal resistance, junction to ambient	$R_{\theta JA}^{(2)}$	250	$^{\circ}\text{C/W}$

Notes

(1) Mounted on PCB with 5.0 mm x 5.0 mm copper pads attached to each terminal

(2) Mounted on minimum recommended pad layout

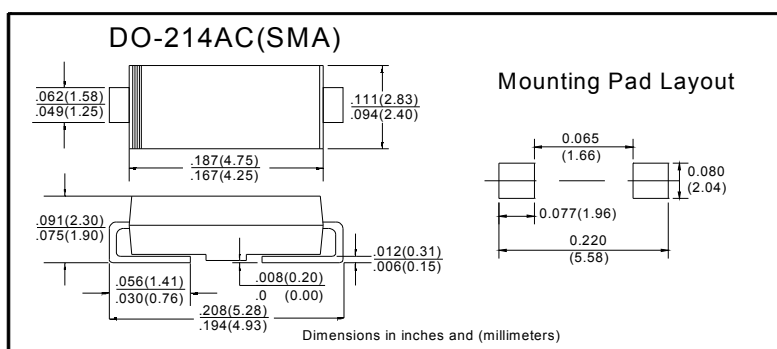
■ Characteristics(Typical)



■ Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMAZ59 series	SMA	5000	10000	80000	13" reel

■ Outline Dimensions



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