

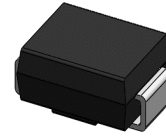
3W,9.1 - 200V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Total power dissipation: Max 3W
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT



SMB (DO-214AA)

Applications

Protection from high voltage, high energy transients, voltage stabilization.

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)			
Parameter	Symbol	Ratings	Unit
Zener voltage	V_Z	See Next Table	V
Power dissipation at $T_L=75^\circ\text{C}$	P_{tot}	3	W
Maximum instantaneous forward voltage at 200mA	V_F	1.2	V
Typical Thermal Resistance , Junction to Ambient	$R_{\theta\text{JA}}$	85	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Case	$R_{\theta\text{JC}}$	15	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Lead	$R_{\theta\text{JL}}$	20	$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 5×5mm copper pads

Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Marking	Vz at IZT (V)			IZT (mA)	Maximum zener impedance		IZK (mA)	Maximum reverse leakage at VR (μA)	Test voltage VR (V)	Maximum Zener Current IZM (mA)
		Min	Typ	Max		ZZT at IZT (Ω)	ZZK at IZK (Ω)				
3.0SMBZ9.1A	924B	8.65	9.1	9.56	41.2	4	500	0.5	2.5	7.0	328
3.0SMBZ10A	925B	9.50	10	10.50	37.5	4.5	500	0.25	2.5	8.0	300
3.0SMBZ11A	926B	10.45	11	11.55	34.1	5.5	550	0.25	0.5	8.4	272
3.0SMBZ12A	927B	11.40	12	12.60	31.2	6.5	550	0.25	0.5	9.1	250
3.0SMBZ13A	928B	12.35	13	13.65	28.8	7	550	0.25	0.5	9.9	230
3.0SMBZ15A	929B	14.25	15	15.75	25.0	9	600	0.25	0.5	11.4	200
3.0SMBZ16A	930B	15.20	16	16.80	23.4	10	600	0.25	0.5	12.2	186
3.0SMBZ18A	931B	17.10	18	18.90	20.8	12	650	0.25	0.5	13.7	166
3.0SMBZ20A	932B	19.00	20	21.00	18.7	14	650	0.25	0.5	15.2	150
3.0SMBZ22A	933B	20.90	22	23.10	17.0	17.5	650	0.25	0.5	16.7	156
3.0SMBZ24A	934B	22.80	24	25.20	15.6	19	700	0.25	0.5	18.2	124
3.0SMBZ27A	935B	25.65	27	28.35	13.9	23	700	0.25	0.5	20.6	110
3.0SMBZ30A	936B	28.50	30	31.50	12.5	26	750	0.25	0.5	22.8	100
3.0SMBZ33A	937B	31.35	33	34.65	11.4	33	800	0.25	0.5	25.1	90
3.0SMBZ36A	938B	34.20	36	37.80	10.4	38	850	0.25	0.5	27.4	82
3.0SMBZ39A	939B	37.05	39	40.95	9.6	45	900	0.25	0.5	29.7	76
3.0SMBZ43A	940B	40.85	43	45.15	8.7	53	950	0.25	0.5	32.7	68
3.0SMBZ47A	941B	44.65	47	49.35	8.0	67	1000	0.25	0.5	35.8	62
3.0SMBZ51A	942B	48.45	51	53.55	7.3	70	1100	0.25	0.5	38.8	58
3.0SMBZ56A	943B	53.20	56	58.80	6.7	86	1300	0.25	0.5	42.6	52
3.0SMBZ62A	944B	58.90	62	65.10	6.0	100	1500	0.25	0.5	47.1	48
3.0SMBZ68A	945B	64.60	68	71.40	5.5	120	1700	0.25	0.5	51.7	44
3.0SMBZ75A	946B	71.25	75	78.75	5.0	140	2000	0.25	1	56.0	40
3.0SMBZ82A	947B	77.90	82	86.10	4.6	160	2500	0.25	1	62.2	36
3.0SMBZ91A	948B	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	32
3.0SMBZ100A	949B	95.0	100	105.0	3.7	250	3100	0.25	1	76.0	30
3.0SMBZ110A	950B	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	26
3.0SMBZ120A	951B	114.0	120	126.0	3.1	380	4500	0.25	1	91.2	24
3.0SMBZ130A	952B	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	22
3.0SMBZ150A	953B	142.5	150	157.5	2.5	600	6000	0.25	1	114.0	20
3.0SMBZ160A	954B	152.0	160	168.0	2.3	700	6500	0.25	1	121.6	18
3.0SMBZ180A	955B	171.0	180	189.0	2.1	900	7000	0.25	1	136.8	16
3.0SMBZ200A	956B	190.0	200	210.0	1.9	1200	8000	0.25	1	152.0	14

Ratings and Characteristics Curves

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

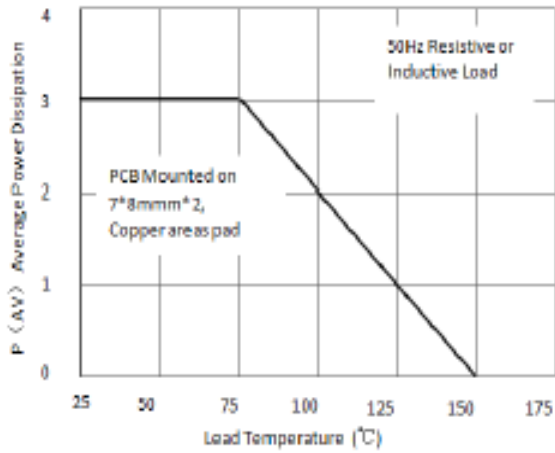


Fig.1 Maximum Continuous Power Dissipation

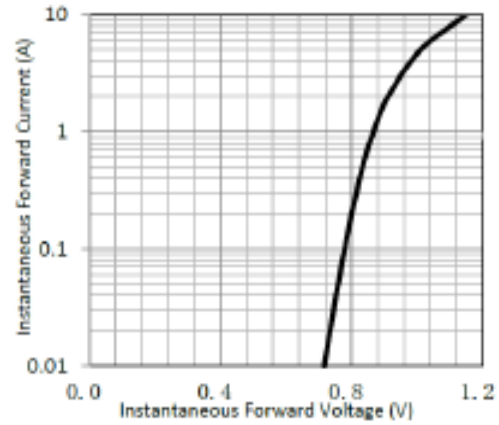


Fig.2 Typical Instantaneous Forward Characteristics

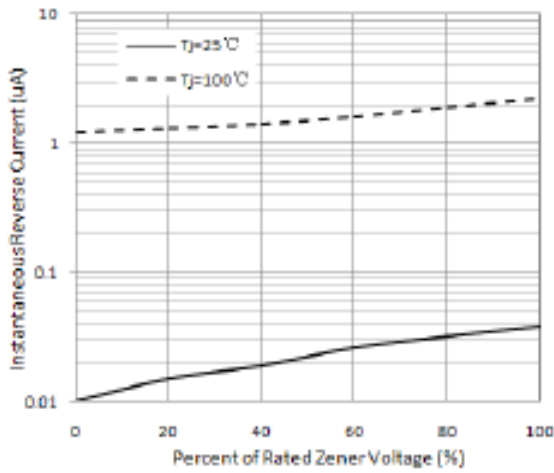


Fig.3 Typical Reverse Characteristics

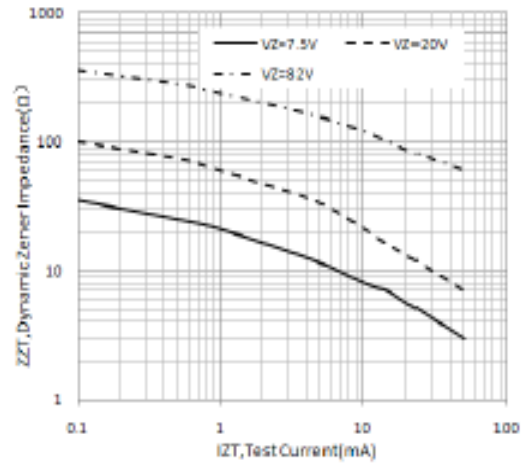


Fig.4 Typical Zener Impedance

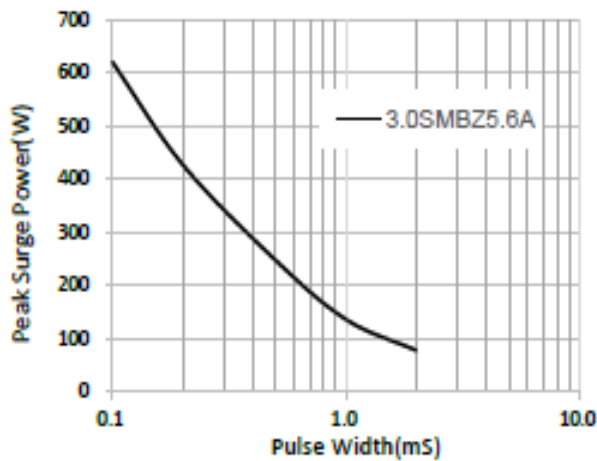
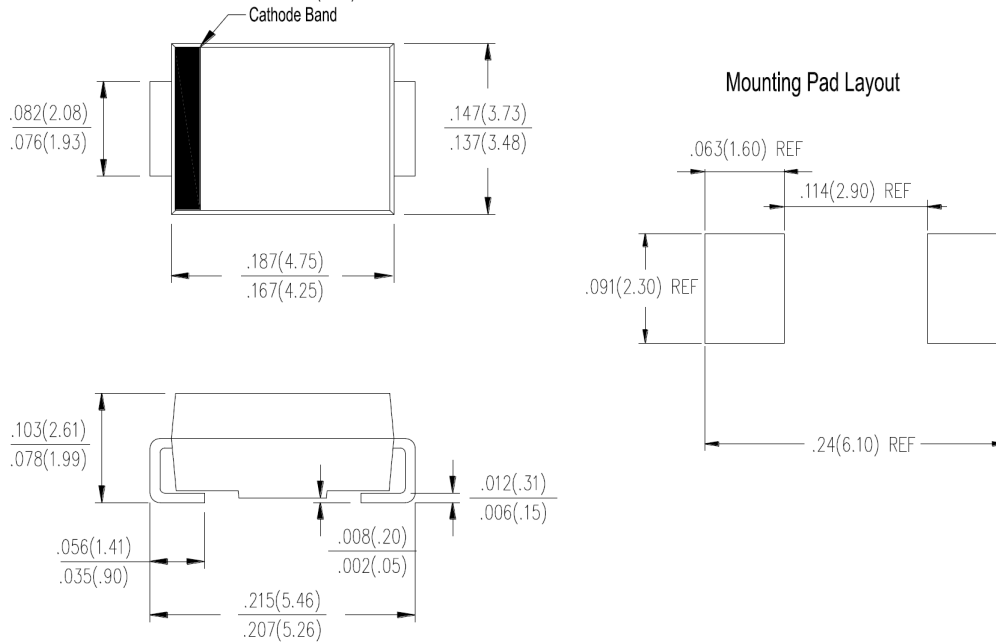


Fig.5 Maximum Non-Repetitive Peak Surge Power

Package Outline Dimensions

in inches (millimeters)

SMB (DO-214AA)



Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.20	Modify document format
Rev.C	2023.12.18	Update product range

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