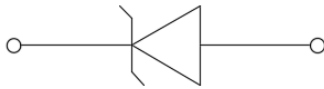
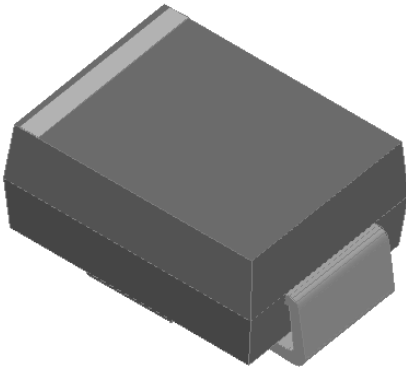


Surface Mount Zener Diodes



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Mechanical Data

- **Package:** DO-214AA (SMB)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

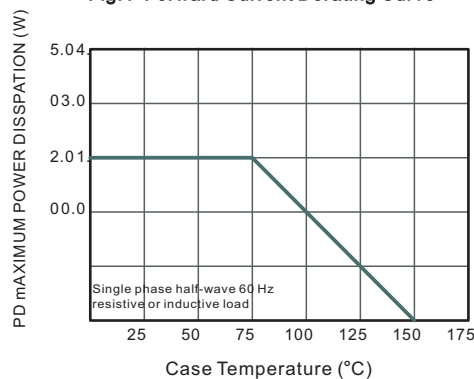
Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

ABSOLUTE MAXIMUM RATINGS AND THERMAL PERFORMANCE (Ta = 25 °C)

Parameter	Symbol	Value	Unit
DC power dissipation at TL=75°C, measure at zero lead length (Note 1) derate above 75°C	P _D	3.0	W
		40	mW/°C
Maximum Steady State Power Dissipation @ TA=25°C Derate above 25°C	P _D	550	mW
		4.4	mW/°C
Junction to ambient thermal resistance	R _{thJA}	226	°C/W
Junction to lead thermal resistance	R _{thJL}	25	°C/W
Junction Temperature Range	T _J	- 55 to + 150	°C
Storage Temperature Range	T _{STG}	- 55 to + 150	°C

Note: 1. Mounted on Cu-Pad size 5mm x 5mm on PCB.

Fig.1 Forward Current Derating Curve



1SMB59XXBT3G SERIES

ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1SMB5913BT3G	3.3	113.6	10	500	1.0	100	1.0	454
1SMB5914BT3G	3.6	104.2	9.0	500	1.0	75	1.0	416
1SMB5915BT3G	3.9	96.1	7.5	500	1.0	25	1.0	384
1SMB5916BT3G	4.3	87.2	6.0	500	1.0	5.0	1.0	348
1SMB5917BT3G	4.7	79.8	5.0	500	1.0	5.0	1.5	319
1SMB5918BT3G	5.1	73.5	4.0	500	1.0	5.0	2.0	294
1SMB5919BT3G	5.6	66.9	2.0	250	1.0	5.0	3.0	267
1SMB5920BT3G	6.2	60.5	2.0	200	1.0	5.0	4.0	241
1SMB5921BT3G	6.8	55.1	2.5	200	1.0	50	5.2	220
1SMB5922BT3G	7.5	50.0	3.0	400	0.5	50	6.0	200
1SMB5923BT3G	8.2	45.7	3.5	400	0.5	50	6.5	182
1SMB5924BT3G	9.1	41.2	4.0	500	0.5	50	7.0	164
1SMB5925BT3G	10	37.5	4.5	500	0.25	50	8.0	150
1SMB5926BT3G	11	34.1	5.5	550	0.25	50	8.4	136
1SMB5927BT3G	12	31.2	6.5	550	0.25	1.0	9.1	125
1SMB5928BT3G	13	28.8	7.0	550	0.25	1.0	9.9	115
1SMB5929BT3G	15	25.0	9.0	600	0.25	1.0	11.4	100
1SMB5930BT3G	16	23.4	10	600	0.25	1.0	12.2	93
1SMB5931BT3G	18	20.8	12	650	0.25	1.0	13.7	83
1SMB5932BT3G	20	18.7	14	650	0.25	1.0	15.2	75
1SMB5933BT3G	22	17.0	17.5	650	0.25	1.0	16.7	68
1SMB5934BT3G	24	15.6	19	700	0.25	1.0	18.2	62
1SMB5935BT3G	27	13.9	23	700	0.25	1.0	20.6	55
1SMB5936BT3G	30	12.5	26	750	0.25	1.0	22.8	50
1SMB5937BT3G	33	11.4	33	800	0.25	1.0	25.1	45
1SMB5938BT3G	36	10.4	38	850	0.25	1.0	27.4	41
1SMB5939BT3G	39	9.6	45	900	0.25	1.0	29.7	38
1SMB5940BT3G	43	8.7	53	950	0.25	1.0	32.7	34
1SMB5941BT3G	47	8.0	67	1000	0.25	1.0	35.8	31
1SMB5942BT3G	51	7.3	70	1100	0.25	1.0	38.8	29
1SMB5943BT3G	56	6.7	86	1300	0.25	1.0	42.6	26
1SMB5944BT3G	62	6.0	100	1500	0.25	1.0	47.1	24
1SMB5945BT3G	68	5.5	120	1700	0.25	1.0	51.7	22
1SMB5946BT3G	75	5.0	140	2000	0.25	1.0	56.0	20
1SMB5947BT3G	82	4.6	160	2500	0.25	1.0	62.2	18
1SMB5948BT3G	91	4.1	200	3000	0.25	1.0	69.2	16
1SMB5949BT3G	100	3.7	250	3100	0.25	1.0	76.0	15
1SMB5950BT3G	110	3.4	300	4000	0.25	1.0	83.6	13
1SMB5951BT3G	120	3.1	380	4500	0.25	1.0	91.2	12
1SMB5952BT3G	130	2.9	450	5000	0.25	1.0	98.8	11
1SMB5953BT3G	150	2.5	600	6000	0.25	1.0	114.0	10
1SMB5954BT3G	160	2.3	700	6500	0.25	1.0	121.6	9.0
1SMB5955BT3G	180	2.1	900	7000	0.25	1.0	136.8	8.0
1SMB5956BT3G	200	1.9	1200	8000	0.25	1.0	152.0	7.0
1SMB5957BT3G	240	1.5	1600	9000	0.25	1.0	182.4	6.0

Note :

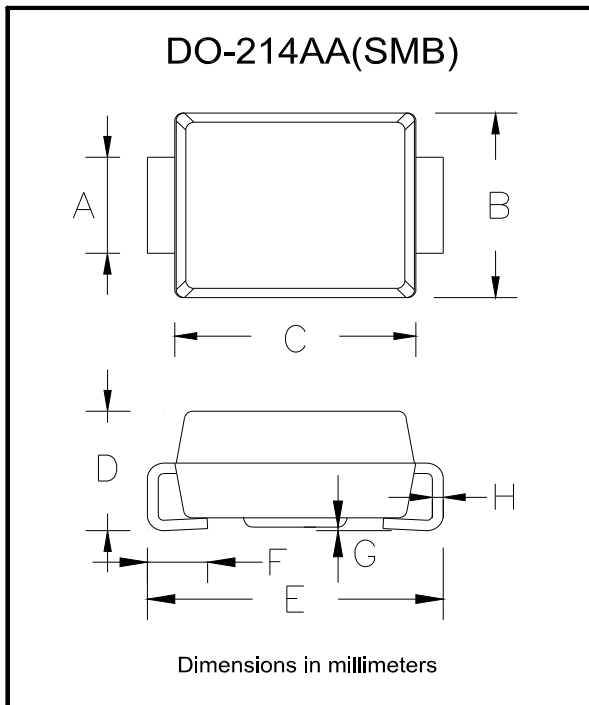
(1) Suffix " A " indicates $\pm 10\%$ tolerance, suffix " B " indicates $\pm 5.0\%$ tolerance.

1SMB59XXBT3G SERIES

■ Ordering Information (Example)

P/N	PKG	QTY
1SMB59XXBT3G	SMB (DO-214AA)	3000

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31