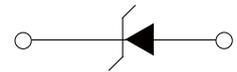


FEATURES

- | Glass passivated chip
- | Built-in strain relief
- | Low inductance
- | High peak reverse power dissipation
- | Low reverse leakage
- | For use in stabilizing and clipping with high power rating
- | Meet AEC-Q101 Requirements



DO-214AA(SMB)



Schematic Symbol

MECHANICAL DATA

- | Case : Molded plastic body
- | Polarity : Polarity symbol marking on body
- | Mounting Position : Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
DC Power dissipation at $T_L = 75^{\circ}\text{C}^{(1)}$	P_D	5.0	W
Maximum forward voltage at $i_f=200\text{mA}$	V_F	1.2	V
Junction temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note:

 (1) T_L =Lead temperature at 3/8" (9.5mm) from body

ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Nominal Zener Voltage @I _T			I _{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		V _{Z AVE.} (V)	V _{Z MIN.} (V)	V _{Z MAX.} (V)		Z _{ZT MAX.} (Ω) @I _{ZT}	Z _{ZK MAX.} (Ω) @I _{ZK}	I _{ZK} (mA)	I _R (μA)@V _R	V _R (V)	
SMB5333AQ	333B	3.3	3.14	3.47	380	3.0	400	1.00	300	1.0	1437.0
SMB5334AQ	334B	3.6	3.42	3.78	350.0	2.5	500	1.00	150	1.0	1317.0
SMB5335AQ	335B	3.9	3.71	4.10	320.0	2.0	500	1.00	50	1.0	1216.0
SMB5336AQ	336B	4.3	4.09	4.52	290.0	2.0	500	1.00	10	1.0	1103.0
SMB5337AQ	337B	4.7	4.47	4.94	260.0	2.0	450	1.00	5	1.0	1009.0
SMB5338AQ	338B	5.1	4.85	5.36	240.0	1.5	400	1.00	1.0	1.0	930.0
SMB5339AQ	339B	5.6	5.32	5.88	220.0	1.0	400	1.00	1.0	2.0	846.0
SMB5340AQ	340B	6.0	5.70	6.30	200.0	1.0	300	1.00	1.0	3.0	790.0
SMB5341AQ	341B	6.2	5.89	6.51	200.0	1.0	200	1.00	1.0	3.0	765.0
SMB5342AQ	342B	6.8	6.46	7.14	175.0	1.0	200	1.00	10.0	5.2	700.0
SMB5343AQ	343B	7.5	7.13	7.88	175.0	1.5	200	1.00	10.0	5.7	630.0
SMB5344AQ	344B	8.2	7.79	8.61	150.0	1.5	200	1.00	10.0	6.2	580.0
SMB5345AQ	345B	8.7	8.27	9.14	150.0	2.0	200	1.00	10.0	6.6	545.0
SMB5346AQ	346B	9.1	8.65	9.56	150.0	2.0	150	1.00	7.5	6.9	520.0
SMB5347AQ	347B	10.0	9.50	10.50	125.0	2.0	125	1.00	5	7.6	475.0
SMB5348AQ	348B	11.0	10.45	11.55	125.0	2.5	125	1.00	5	8.4	430.0
SMB5349AQ	349B	12.0	11.40	12.60	100.0	2.5	125	1.00	2	9.1	395.0
SMB5350AQ	350B	13.0	12.35	13.65	100.0	2.5	100	1.00	1	9.9	365.0
SMB5351AQ	351B	14.0	13.30	14.70	100.0	2.5	75	1.00	1	10.6	340.0
SMB5352AQ	352B	15.0	14.25	15.75	75.0	2.5	75	1.00	1	11.5	315.0
SMB5353AQ	353B	16.0	15.20	16.80	75.0	2.5	75	1.00	1	12.2	295.0
SMB5354AQ	354B	17.0	16.15	17.85	70.0	2.5	75	1.00	0.5	12.9	280.0
SMB5355AQ	355B	18.0	17.10	18.90	65.0	2.5	75	1.00	0.5	13.7	265.0
SMB5356AQ	356B	19.0	18.05	19.95	65.0	3.0	75	1.00	0.5	14.4	250.0
SMB5357AQ	357B	20.0	19.00	21.00	65.0	3.0	75	1.00	0.5	15.2	237.0
SMB5358AQ	358B	22.0	20.90	23.10	50.0	3.5	75	1.00	0.5	16.7	216.0
SMB5359AQ	359B	24.0	22.80	25.20	50.0	3.5	100	1.00	0.5	18.2	198.0
SMB5360AQ	360B	25.0	23.75	26.25	50.0	4.0	110	1.00	0.5	19.0	190.0
SMB5361AQ	361B	27.0	25.65	28.35	50.0	5.0	120	1.00	0.5	20.6	176.0
SMB5362AQ	362B	28.0	26.60	29.40	50.0	6.0	130	1.00	0.5	21.2	170.0

Part Number	Device Marking Code	Nominal Zener Voltage @I _T			I _{ZT} (mA)	Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		V _{Z.AVE.} (V)	V _{Z.MIN.} (V)	V _{Z.MAX.} (V)		Z _{ZT.MAX.} (Ω) @I _{ZT}	Z _{ZK.MAX.} (Ω) @I _{ZK}	I _{ZK} (mA)	I _R (uA)@V _R	V _R (V)	
SMB5363AQ	363B	30.0	28.50	31.50	40.0	8.0	140	1.00	0.5	22.8	158.0
SMB5364AQ	364B	33.0	31.35	34.65	40.0	10.0	150	1.00	0.5	25.1	144.0
SMB5365AQ	365B	36.0	34.20	37.80	30.0	11.0	160	1.00	0.5	27.4	132.0
SMB5366AQ	366B	39.0	37.05	40.95	30.0	14.0	170	1.00	0.5	29.7	122.0
SMB5367AQ	367B	43.0	40.85	45.15	30.0	20.0	190	1.00	0.5	32.7	110.0
SMB5368AQ	368B	47.0	44.65	49.35	25.0	25.0	210	1.00	0.5	35.8	100.0
SMB5369AQ	369B	51.0	48.45	53.55	25.0	27.0	230	1.00	0.5	38.8	93.0
SMB5370AQ	370B	56.0	53.20	58.80	20.0	35.0	280	1.00	0.5	42.6	86.0
SMB5371AQ	371B	60.0	57.00	63.00	20.0	40.0	350	1.00	0.5	42.5	79.0
SMB5372AQ	372B	62.0	58.90	65.10	20.0	42.0	400	1.00	0.5	47.1	76.0
SMB5373AQ	373B	68.0	64.60	71.40	20.0	44.0	500	1.00	0.5	51.7	70.0
SMB5374AQ	374B	75.0	71.25	78.75	20.0	45.0	620	1.00	0.5	56.0	63.0
SMB5375AQ	375B	82.0	77.90	86.10	15.0	65.0	720	1.00	0.5	62.2	58.0
SMB5376AQ	376B	87.0	82.65	91.35	15.0	75.0	760	1.00	0.5	66.0	54.5
SMB5377AQ	377B	91.0	86.45	95.55	15.0	75.0	760	1.00	0.5	69.2	52.5
SMB5378AQ	378B	100.0	95.00	105.00	12.0	90.0	800	1.00	0.5	76.0	47.5
SMB5379AQ	379B	110.0	104.50	115.50	12.0	125.0	1000	1.00	0.5	83.6	43.0
SMB5380AQ	380B	120.0	114.00	126.00	10.0	170.0	1150	1.00	0.5	91.2	39.5
SMB5381AQ	381B	130.0	123.50	136.50	10.0	190.0	1250	1.00	0.5	98.8	36.6
SMB5382AQ	382B	140.0	133.00	147.00	8.0	230.0	1500	1.00	0.5	106.0	34.0
SMB5383AQ	383B	150.0	142.50	157.50	8.0	330.0	1500	1.00	0.5	114.0	31.6
SMB5384AQ	384B	160.0	152.00	168.00	8.0	350.0	1650	1.00	0.5	122.0	29.4
SMB5385AQ	385B	170.0	161.50	178.50	8.0	380.0	1750	1.00	0.5	129.0	28.0
SMB5386AQ	386B	180.0	171.00	189.00	5.0	430.0	1750	1.00	0.5	137.0	26.4
SMB5387AQ	387B	190.0	180.50	199.50	5.0	450.0	1850	1.00	0.5	144.0	25.0
SMB5388AQ	388B	200.0	190.00	210.00	5.0	480.0	1850	1.00	0.5	152.0	23.6

CHARACTERISTIC CURVES

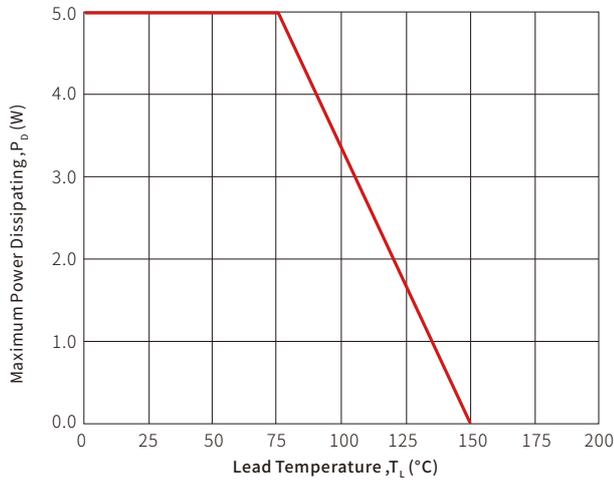
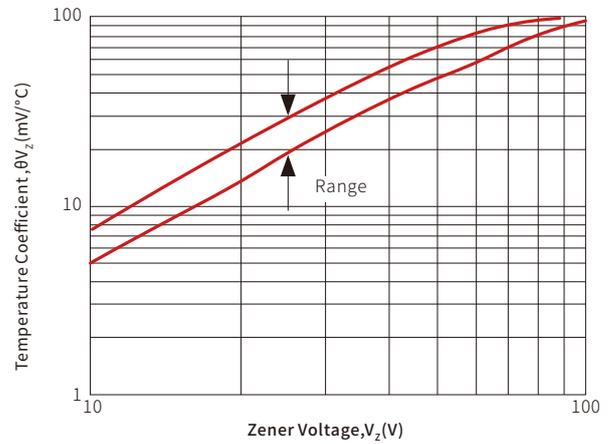
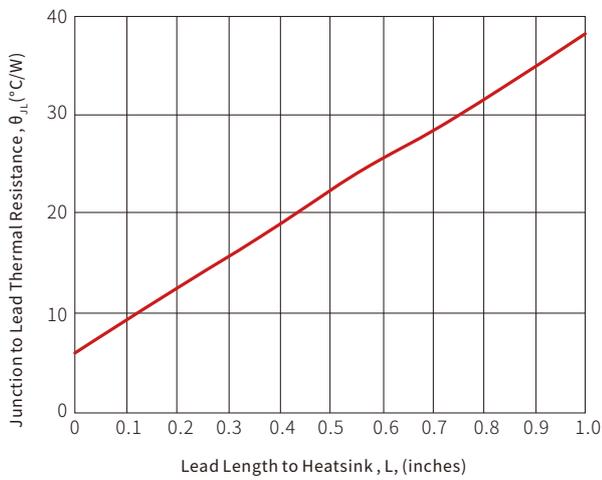
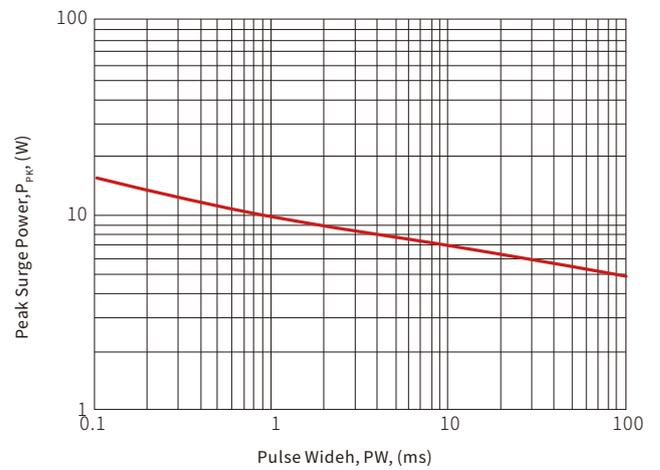
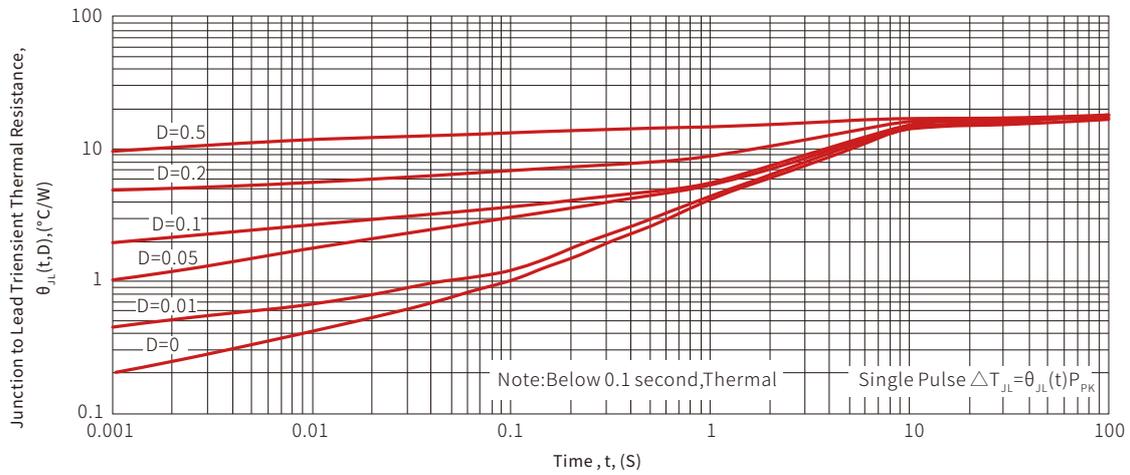
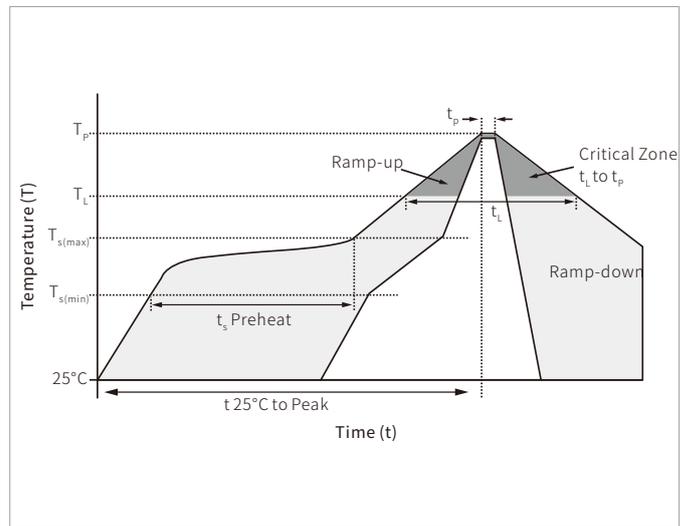
Fig.1-Power Temperature Derating Curve

Fig.2-Temperature Coefficients v.s. Zener Voltage

Fig.3-Typical Thermal Resistance v.s. Lead Length

Fig.4-Maximum Surge Power


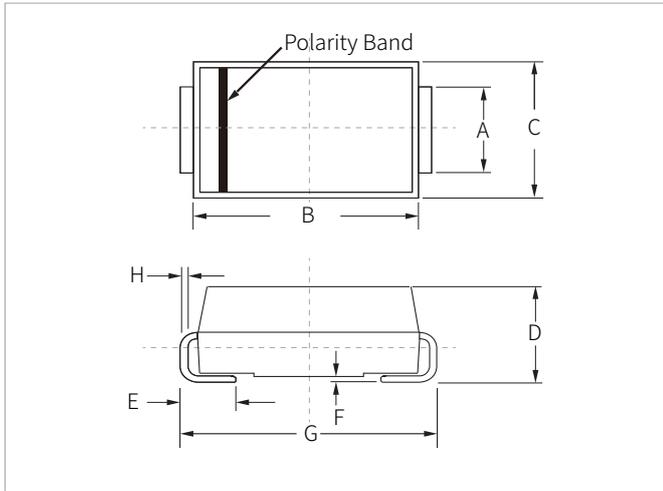
Fig.5-Typical Thermal Response L, Lead Length=3/8inch


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

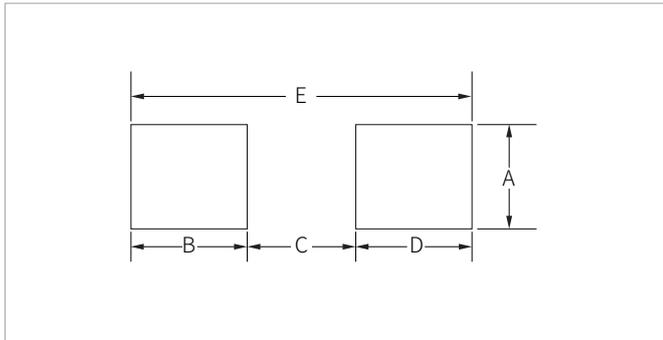


DO-214AA(SMB) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	4.30	4.70	0.170	0.185
C	3.40	3.90	0.134	0.153
D	2.15	2.75	0.085	0.108
E	1.00	1.50	0.039	0.059
F	0.02	0.20	0.001	0.008
G	5.10	5.50	0.200	0.216
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	-	0.087	-
B	1.45	-	0.057	-
C	-	2.55	-	0.010
D	1.45	-	0.057	-
E	5.60REF		0.220REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SMB53xxAQ	DO-214AA(SMB)	3000PCS	13"

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By QR Code

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