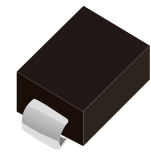
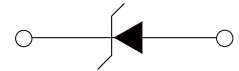


FEATURES

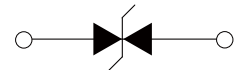
- | Low profile package
- | Ideal for automated placement
- | 1000 Watt peak pulse power capability with a 10/1000µs waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance



DO-214AA(SMB)



Uni-directional



Bi-directional

APPLICATIONS

- | Power supply protection
- | Automotive application
- | Industrial application
- | Power management

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
Peak Pulse Power Dissipation on 10/1000µs waveform (Note1, Note2).	P_{PPM}	1000	Watts
Steady State Power Dissipation at $T_A=50^{\circ}\text{C}$ (Note2).	P_D	5.0	Watts

Notes : 1.Non-repetitive current pulse, $T_A=25^{\circ}\text{C}$.
 2.Mounted on 5.0mm*5.0mm (0.03mm thick) Copper Pads to each terminal.

THERMAL CONSIDERATIONS

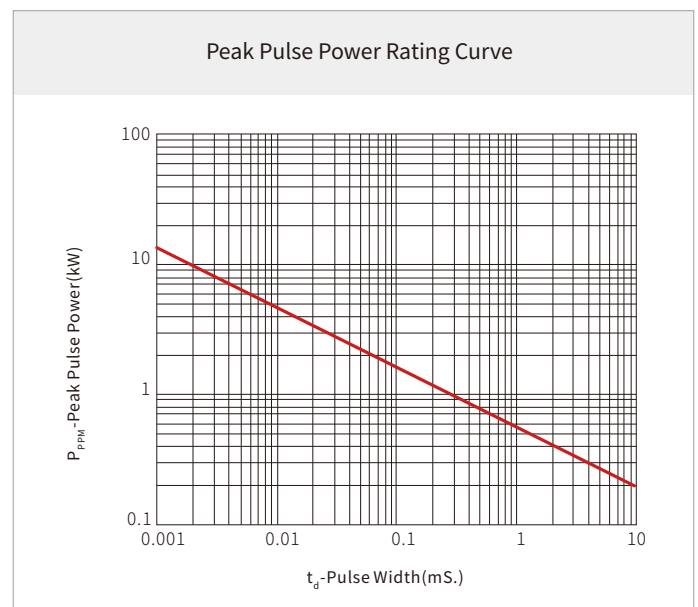
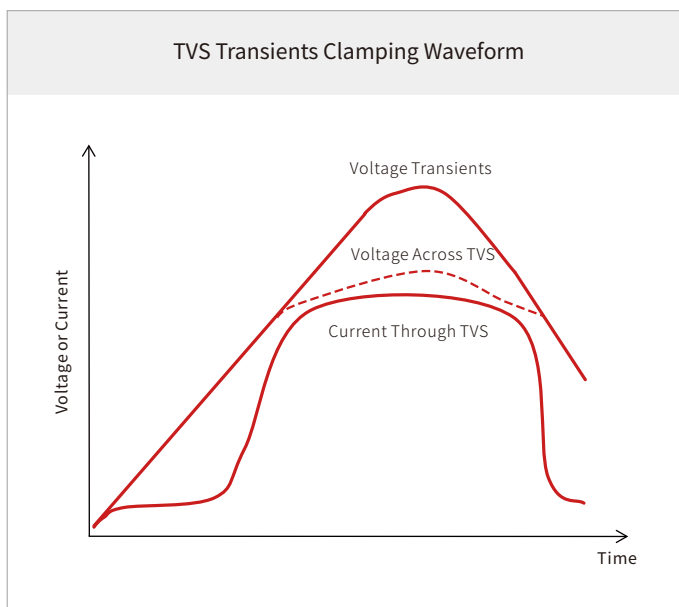
Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	100	$^{\circ}\text{C/W}$

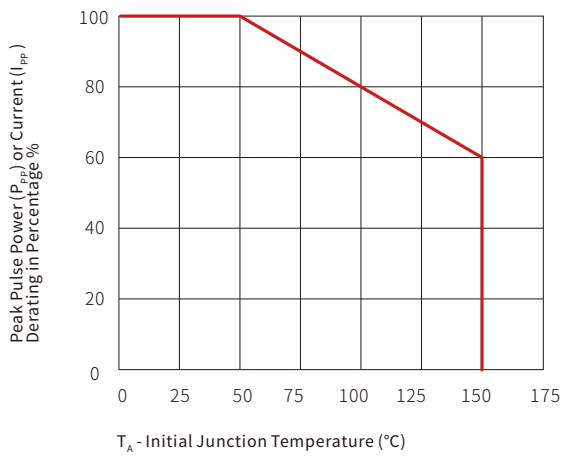
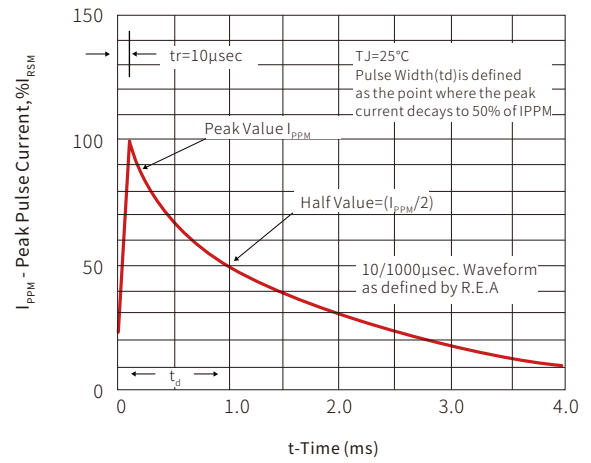
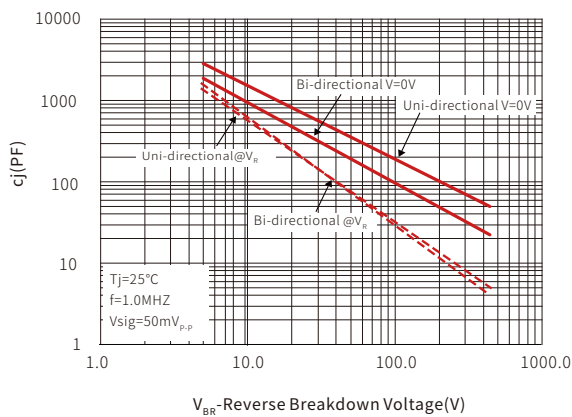
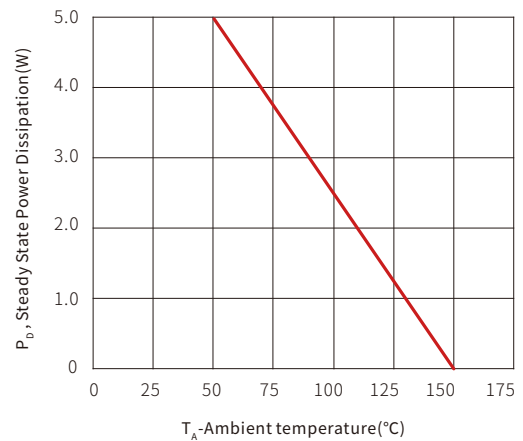
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)
1KSMB6.8A	1KSMB6.8CA	6T8A	6T8C	5.80	6.45	7.14	10.0	10.5	95.2	1000
1KSMB7.5A	1KSMB7.5CA	7T5A	7T5C	6.40	7.13	7.88	10.0	11.3	88.5	500
1KSMB8.2A	1KSMB8.2CA	8T2A	8T2C	7.02	7.79	8.61	10.0	12.1	82.6	200
1KSMB9.1A	1KSMB9.1CA	9T1A	9T1C	7.78	8.65	9.55	1.0	13.4	74.6	50
1KSMB10A	1KSMB10CA	T10A	T10C	8.55	9.50	10.50	1.0	14.5	69.0	10
1KSMB11A	1KSMB11CA	T11A	T11C	9.40	10.50	11.60	1.0	15.6	64.1	5
1KSMB12A	1KSMB12CA	T12A	T12C	10.20	11.40	12.60	1.0	16.7	59.9	5
1KSMB13A	1KSMB13CA	T13A	T13C	11.10	12.40	13.70	1.0	18.2	54.9	1
1KSMB15A	1KSMB15CA	T15A	T15C	12.80	14.30	15.80	1.0	21.2	47.2	1
1KSMB16A	1KSMB16CA	T16A	T16C	13.60	15.20	16.80	1.0	22.5	44.4	1
1KSMB18A	1KSMB18CA	T18A	T18C	15.30	17.10	18.90	1.0	25.5	39.2	1
1KSMB20A	1KSMB20CA	T20A	T20C	17.10	19.00	21.00	1.0	27.7	36.1	1
1KSMB22A	1KSMB22CA	T22A	T22C	18.80	20.90	23.10	1.0	30.6	32.7	1
1KSMB24A	1KSMB24CA	T24A	T24C	20.50	22.80	25.20	1.0	33.2	30.1	1
1KSMB27A	1KSMB27CA	T27A	T27C	23.10	25.70	28.40	1.0	37.5	26.7	1
1KSMB30A	1KSMB30CA	T30A	T30C	25.60	28.50	31.50	1.0	41.4	24.2	1
1KSMB33A	1KSMB33CA	T33A	T33C	28.20	31.40	34.70	1.0	45.7	21.9	1
1KSMB36A	1KSMB36CA	T36A	T36C	30.80	34.20	37.80	1.0	49.9	20.0	1
1KSMB39A	1KSMB39CA	T39A	T39C	33.30	37.10	41.00	1.0	53.9	18.6	1
1KSMB43A	1KSMB43CA	T43A	T43C	36.80	40.90	45.20	1.0	59.3	16.9	1
1KSMB47A	1KSMB47CA	T47A	T47C	40.20	44.70	49.40	1.0	64.8	15.4	1
1KSMB51A	1KSMB51CA	T51A	T51C	43.60	48.50	53.60	1.0	70.1	14.3	1
1KSMB56A	1KSMB56CA	T56A	T56C	47.80	53.20	58.80	1.0	77.0	13.0	1
1KSMB62A	1KSMB62CA	T62A	T62C	53.00	58.90	65.10	1.0	85.0	11.8	1
1KSMB68A	1KSMB68CA	T68A	T68C	58.10	64.60	71.40	1.0	92.0	10.9	1
1KSMB75A	1KSMB75CA	T75A	T75C	64.10	71.30	78.80	1.0	103.0	9.7	1
1KSMB85A	1KSMB85CA	T82A	T82C	70.10	77.90	86.10	1.0	113.0	8.8	1
1KSMB91A	1KSMB91CA	T91A	T91C	77.80	86.50	95.50	1.0	125.0	8.0	1
1KSMB100A	1KSMB100CA	T100A	T100C	85.50	95.00	105.00	1.0	137.0	7.3	1
1KSMB110A	1KSMB110CA	T110A	T110C	94.00	105.00	116.00	1.0	152.0	6.6	1
1KSMB120A	1KSMB120CA	T120A	T120C	102.00	114.00	126.00	1.0	165.0	6.1	1

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@ I_T	Breakdown Voltage Max.@ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	$V_{RWM}(V)$	$V_{BR}(V)$	$V_{BR}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
1KSMB130A	1KSMB130CA	T130A	T130C	111.00	124.00	137.00	1.0	179.0	5.6	1
1KSMB150A	1KSMB150CA	T150A	T150C	128.00	143.00	158.00	1.0	207.0	4.8	1
1KSMB160A	1KSMB160CA	T160A	T160C	136.00	152.00	168.00	1.0	219.0	4.6	1
1KSMB170A	1KSMB170CA	T170A	T170C	145.00	162.00	179.00	1.0	234.0	4.3	1
1KSMB180A	1KSMB180CA	T180A	T180C	154.00	171.00	189.00	1.0	246.0	4.1	1

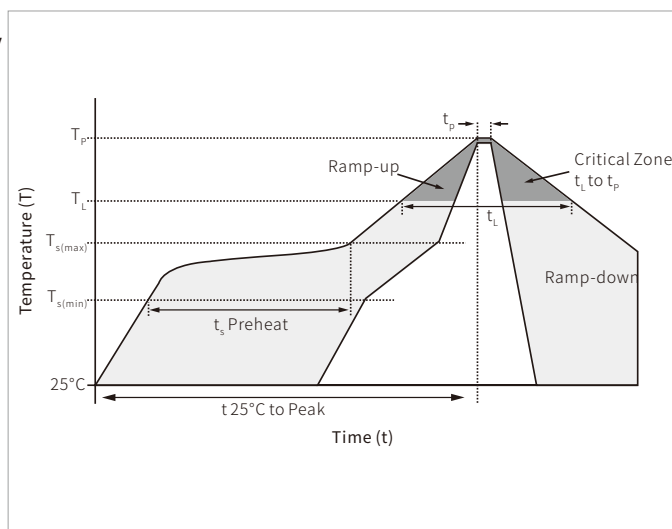
CHARACTERISTIC CURVES



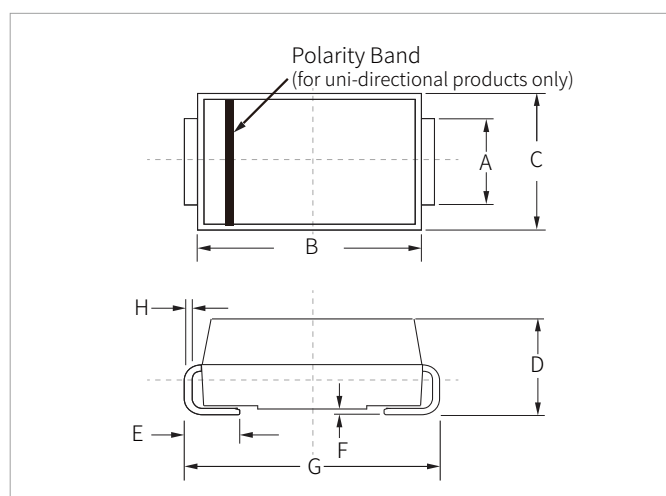
Pulse Derating Curve

Pulse Waveform

Typical Junction Capacitance

Steady State Power Dissipation Derating Curve


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

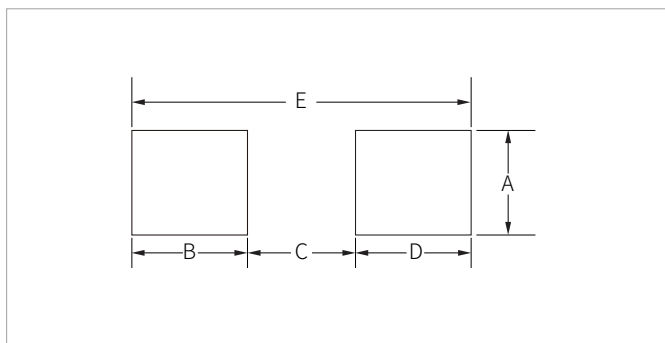


DO-214AA(SMB) PACKAGE INFORMATION



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
1KSMBxx (C) A	DO-214AA(SMB)	3000PCS	13"

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