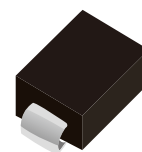
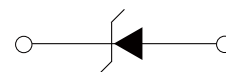


FEATURES

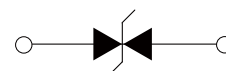
- | Low profile package
- | Ideal for automated placement
- | 600 Watt peak pulse power capability with a 10/1000µs waveform
- | For surface mounted applicatons to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



DO-214AA(SMB)



Uni-directionnal



Bi-directionnal

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 10/1000us waveform (Note1, Note2).	P_{PPM}	600	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	$R_{\theta JA}$	90	$^{\circ}\text{C/W}$

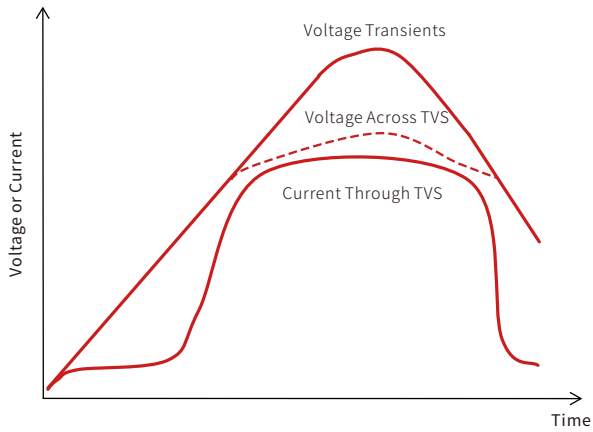
ELECTRICAL CHARACTERISTICS (T_A=25°C)

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 (uA)
TPSMBJ11A	TPSMBJ11CA	KZA	AZA	11.0	12.2	13.5	1	18.2	33.0	1
TPSMBJ12A	TPSMBJ12CA	LEA	BEA	12.0	13.3	14.7	1	19.9	30.2	1
TPSMBJ13A	TPSMBJ13CA	LGA	BGA	13.0	14.4	15.9	1	21.5	28.0	1
TPSMBJ14A	TPSMBJ14CA	LKA	BKA	14.0	15.6	17.2	1	23.2	25.9	1
TPSMBJ15A	TPSMBJ15CA	LMA	BMA	15.0	16.7	18.5	1	24.4	24.6	1
TPSMBJ16A	TPSMBJ16CA	LPA	BPA	16.0	17.8	19.7	1	26.0	23.1	1
TPSMBJ17A	TPSMBJ17CA	LRA	BRA	17.0	18.9	20.9	1	27.6	21.8	1
TPSMBJ18A	TPSMBJ18CA	LTA	BTA	18.0	20.0	22.1	1	29.2	20.6	1
TPSMBJ20A	TPSMBJ20CA	LVA	BVA	20.0	22.2	24.5	1	32.4	18.6	1
TPSMBJ22A	TPSMBJ22CA	LXA	BXA	22.0	24.4	26.9	1	35.5	16.9	1
TPSMBJ24A	TPSMBJ24CA	LZA	BZA	24.0	26.7	29.5	1	38.9	15.5	1
TPSMBJ26A	TPSMBJ26CA	MEA	CEA	26.0	28.9	31.9	1	42.1	14.3	1
TPSMBJ28A	TPSMBJ28CA	MGA	CGA	28.0	31.1	34.4	1	45.4	13.3	1
TPSMBJ30A	TPSMBJ30CA	MKA	CKA	30.0	33.3	36.8	1	48.4	12.4	1
TPSMBJ33A	TPSMBJ33CA	MMA	CMA	33.0	36.7	40.6	1	53.3	11.3	1
TPSMBJ36A	TPSMBJ36CA	MPA	CPA	36.0	40.0	44.2	1	58.1	10.4	1
TPSMBJ40A	TPSMBJ40CA	MRA	CRA	40.0	44.4	49.1	1	64.5	9.3	1
TPSMBJ43A	TPSMBJ43CA	MTA	CTA	43.0	47.8	52.8	1	69.4	8.7	1
TPSMBJ45A	TPSMBJ45CA	MVA	CVA	45.0	50.0	55.3	1	72.7	8.3	1
TPSMBJ48A	TPSMBJ48CA	MXA	CXA	48.0	53.3	58.9	1	77.4	7.8	1
TPSMBJ51A	TPSMBJ51CA	MZA	CZA	51.0	56.7	62.7	1	82.4	7.3	1
TPSMBJ54A	TPSMBJ54CA	NEA	DEA	54.0	60.0	66.3	1	87.1	6.9	1
TPSMBJ58A	TPSMBJ58CA	NGA	DGA	58.0	64.4	71.2	1	93.6	6.5	1
TPSMBJ60A	TPSMBJ60CA	NKA	DKA	60.0	66.7	73.7	1	96.8	6.2	1
TPSMBJ64A	TPSMBJ64CA	NMA	DMA	64.0	71.1	78.6	1	103.0	5.9	1
TPSMBJ70A	TPSMBJ70CA	NPA	DPA	70.0	77.8	86.0	1	113.0	5.3	1
TPSMBJ75A	TPSMBJ75CA	NRA	DRA	75.0	83.3	92.1	1	121.0	5.0	1
TPSMBJ78A	TPSMBJ78CA	NTA	DTA	78.0	86.7	95.8	1	126.0	4.8	1
TPSMBJ85A	TPSMBJ85CA	NVA	DVA	85.0	94.4	104.0	1	137.0	4.4	1
TPSMBJ90A	TPSMBJ90CA	NXA	DXA	90.0	100.0	111.0	1	146.0	4.1	1

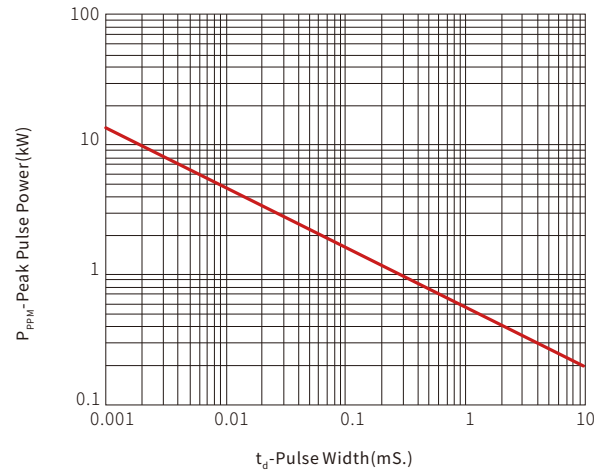
Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
TPSMBJ100A	TPSMBJ100CA	NZA	DZA	100.0	111.0	123.0	1	162.0	3.7	1
TPSMBJ110A	TPSMBJ110CA	PEA	EEA	110.0	122.0	135.0	1	177.0	3.4	1
TPSMBJ120A	TPSMBJ120CA	PGA	EGA	120.0	133.0	147.0	1	193.0	3.1	1
TPSMBJ130A	TPSMBJ130CA	PKA	EKA	130.0	144.0	159.0	1	209.0	2.9	1
TPSMBJ150A	TPSMBJ150CA	PMA	EMA	150.0	167.0	185.0	1	243.0	2.5	1
TPSMBJ160A	TPSMBJ160CA	PPA	EPA	160.0	178.0	197.0	1	259.0	2.3	1
TPSMBJ170A	TPSMBJ170CA	PRA	ERA	170.0	189.0	209.0	1	275.0	2.2	1
TPSMBJ180A	TPSMBJ180CA	PTA	ETA	180.0	201.0	222.0	1	292.0	2.1	1
TPSMBJ200A	TPSMBJ200CA	PVA	EVA	200.0	224.0	247.0	1	324.0	1.9	1
TPSMBJ220A	TPSMBJ220CA	PXA	EXA	220.0	246.0	272.0	1	356.0	1.7	1
TPSMBJ250A	TPSMBJ250CA	PZA	EZA	250.0	279.0	309.0	1	405.0	1.5	1
TPSMBJ300A	TPSMBJ300CA	QEA	FEA	300.0	335.0	371.0	1	486.0	1.3	1
TPSMBJ350A	TPSMBJ350CA	QGA	FGA	350.0	391.0	432.0	1	567.0	1.1	1
TPSMBJ400A	TPSMBJ400CA	QKA	FKA	400.0	447.0	494.0	1	648.0	0.9	1
TPSMBJ440A	TPSMBJ440CA	QMA	FMA	440.0	492.0	543.0	1	713.0	0.9	1

CHARACTERISTIC CURVES

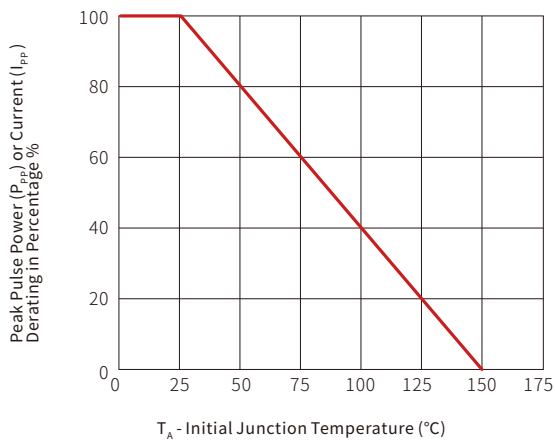
TVS Transients Clamping Waveform



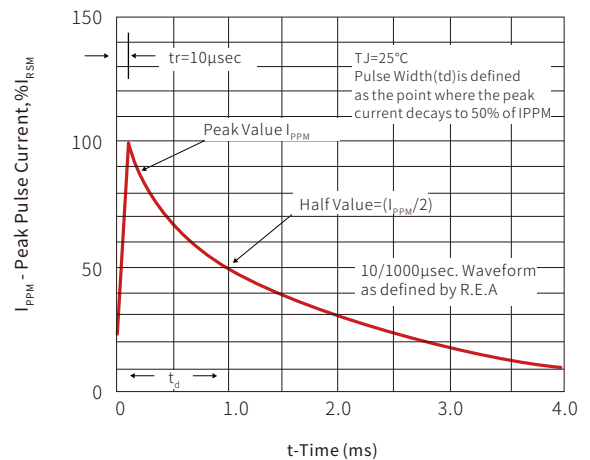
Peak Pulse Power Rating Curve

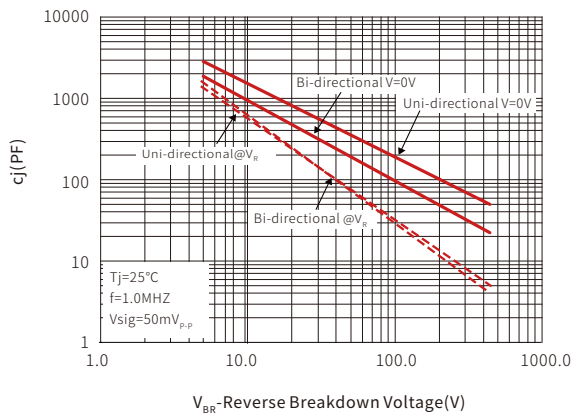
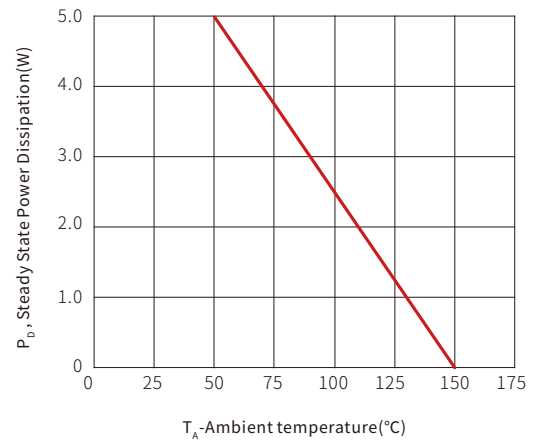


Pulse Derating Curve



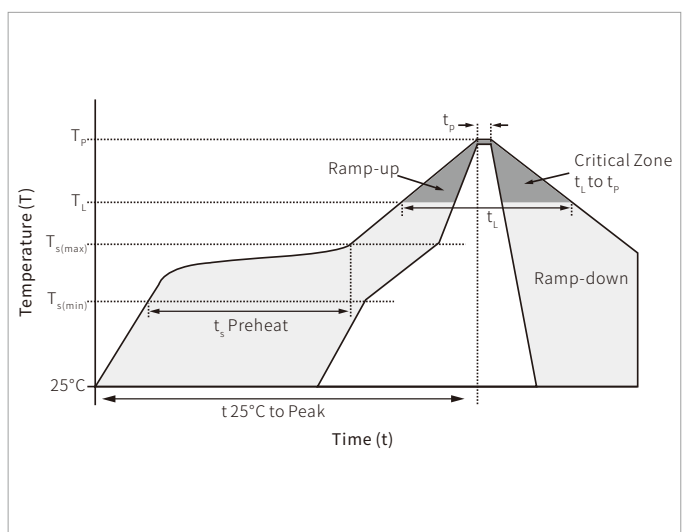
Pulse Waveform



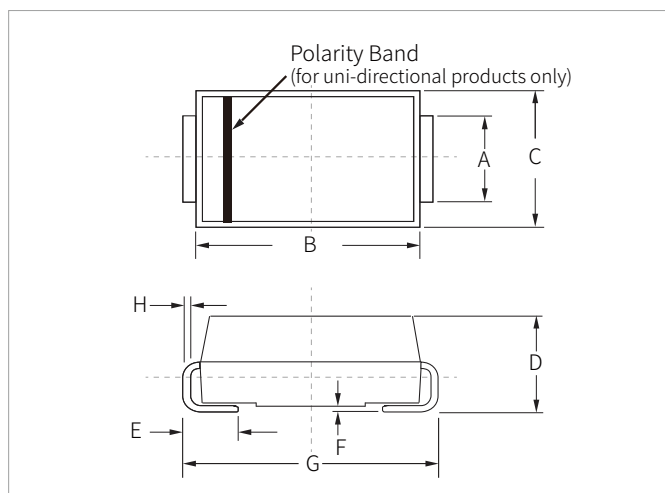
Typical Junction Capacitance

Steady State Power Dissipation Derating Curve


SOLDERING PARAMETERS

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

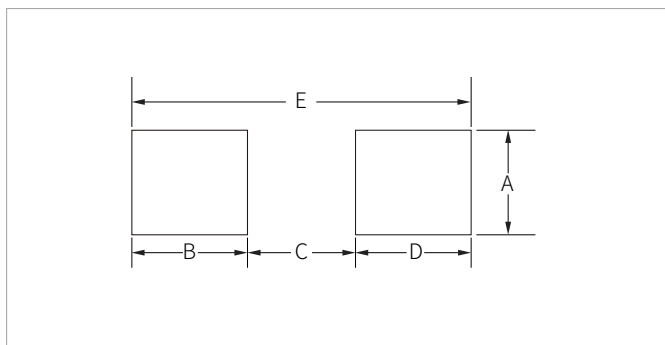


DO-214AA(SMB) PACKAGE INFORMATION



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

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Wechat

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