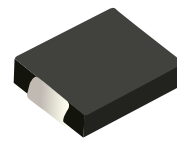
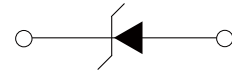


FEATURES

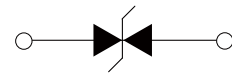
- | Low profile package
- | Ideal for automated placement
- | 1500 Watt peak pulse power capability with a 10/1000 μ s waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



DO-214AB(SMC)



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	Symbo	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1, Note2).	P_{PPM}	1500	Watts
Steady State Power Dissipation at $T_L=50^{\circ}\text{C}$, Lead lengths.375"(9.5mm) (Note2)	P_D	6.5	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	$R_{\theta JA}$	75	$^{\circ}\text{C}/\text{W}$

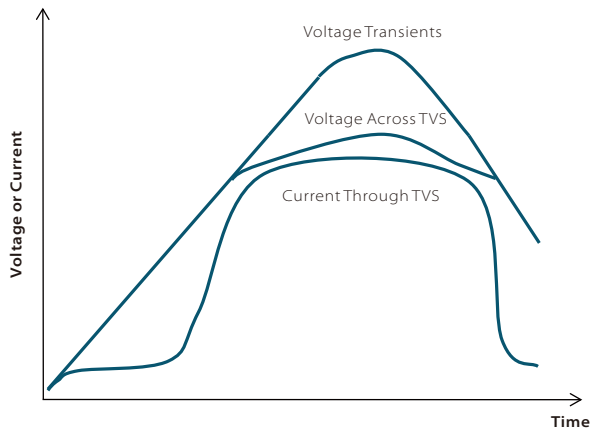
ELECTRICAL CHARACTERISTICS (T_A=25°C)

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)
TPSMCJ11A	TPSMCJ11CA	GDZA	BDZA	11.0	12.20	13.50	1	18.2	82.5	1
TPSMCJ12A	TPSMCJ12CA	GEEA	BEEA	12.0	13.30	14.70	1	19.9	75.4	1
TPSMCJ13A	TPSMCJ13CA	GEGA	BEGA	13.0	14.40	15.90	1	21.5	69.8	1
TPSMCJ14A	TPSMCJ14CA	GEKA	BEKA	14.0	15.60	17.20	1	23.2	64.7	1
TPSMCJ15A	TPSMCJ15CA	GEMA	BEMA	15.0	16.70	18.50	1	24.4	61.5	1
TPSMCJ16A	TPSMCJ16CA	GEPA	BEPA	16.0	17.80	19.70	1	26.0	57.7	1
TPSMCJ18A	TPSMCJ18CA	GETA	BETA	18.0	20.00	22.10	1	29.2	51.4	1
TPSMCJ20A	TPSMCJ20CA	GEVA	BEVA	20.0	22.20	24.50	1	32.4	46.3	1
TPSMCJ22A	TPSMCJ22CA	GEXA	BEXA	22.0	24.40	26.90	1	35.5	42.3	1
TPSMCJ24A	TPSMCJ24CA	GEZA	BEZA	24.0	26.70	29.50	1	38.9	38.6	1
TPSMCJ26A	TPSMCJ26CA	GFEA	BFEA	26.0	28.90	31.90	1	42.1	35.7	1
TPSMCJ28A	TPSMCJ28CA	GFGA	BFGA	28.0	31.10	34.40	1	45.4	33.1	1
TPSMCJ30A	TPSMCJ30CA	GFKA	BFKA	30.0	33.30	36.80	1	48.4	31.0	1
TPSMCJ33A	TPSMCJ33CA	GFMA	BFMA	33.0	36.70	40.60	1	53.3	28.2	1
TPSMCJ36A	TPSMCJ36CA	GFPA	BFPA	36.0	40.00	44.20	1	58.1	25.9	1
TPSMCJ40A	TPSMCJ40CA	GFRA	BFRA	40.0	44.40	49.10	1	64.5	23.3	1
TPSMCJ43A	TPSMCJ43CA	GFTA	BFTA	43.0	47.80	52.80	1	69.4	21.7	1
TPSMCJ45A	TPSMCJ45CA	GFVA	BFVA	45.0	50.00	55.30	1	72.7	20.6	1
TPSMCJ48A	TPSMCJ48CA	GFXA	BFXA	48.0	53.30	58.90	1	77.4	19.4	1
TPSMCJ51A	TPSMCJ51CA	GFZA	BFZA	51.0	56.70	62.70	1	82.4	18.2	1
TPSMCJ54A	TPSMCJ54CA	GGEA	BGEA	54.0	60.00	66.30	1	87.1	17.3	1
TPSMCJ58A	TPSMCJ58CA	GGGA	BGGA	58.0	64.40	71.20	1	93.6	16.1	1
TPSMCJ60A	TPSMCJ60CA	GGKA	BGKA	60.0	66.70	73.70	1	96.8	15.5	1
TPSMCJ64A	TPSMCJ64CA	GGMA	BGMA	64.0	71.10	78.60	1	103.0	14.6	1
TPSMCJ70A	TPSMCJ70CA	GGPA	BGPA	70.0	77.80	86.00	1	113.0	13.3	1
TPSMCJ75A	TPSMCJ75CA	GGRA	BGRA	75.0	83.30	92.10	1	121.0	12.4	1
TPSMCJ78A	TPSMCJ78CA	GGTA	BGTA	78.0	86.70	95.80	1	126.0	11.9	1
TPSMCJ85A	TPSMCJ85CA	GGVA	BGVA	85.0	94.40	104.00	1	137.0	11.0	1
TPSMCJ90A	TPSMCJ90CA	GGXA	BGXA	90.0	100.00	111.00	1	146.0	10.3	1
TPSMCJ100A	TPSMCJ100CA	GGZA	BGZA	100.0	111.00	123.00	1	162.0	9.3	1

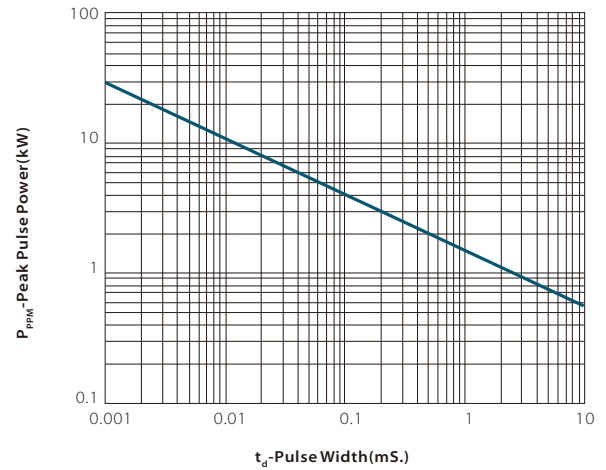
Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Uni-Polar	Bi-Polar	Uni	Bi	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
TPSMCJ110A	TPSMCJ110CA	GHEA	BHEA	110.0	122.00	135.00	1	177.0	8.5	1
TPSMCJ120A	TPSMCJ120CA	GHGA	BHGA	120.0	133.00	147.00	1	193.0	7.8	1
TPSMCJ130A	TPSMCJ130CA	GHKA	BHKA	130.0	144.00	159.00	1	209.0	7.2	1
TPSMCJ150A	TPSMCJ150CA	GHMA	BHMA	150.0	167.00	185.00	1	243.0	6.2	1
TPSMCJ160A	TPSMCJ160CA	GHPA	BHPA	160.0	178.00	197.00	1	259.0	5.8	1
TPSMCJ170A	TPSMCJ170CA	GHRA	BHRA	170.0	189.00	209.00	1	275.0	5.5	1
TPSMCJ180A	TPSMCJ180CA	GHTA	BHTA	180.0	201.00	222.00	1	292.0	5.1	1
TPSMCJ200A	TPSMCJ200CA	GHVA	BHVA	200.0	224.00	247.00	1	324.0	4.6	1
TPSMCJ220A	TPSMCJ220CA	GHXA	BHXA	220.0	246.00	272.00	1	356.0	4.2	1
TPSMCJ250A	TPSMCJ250CA	GHZA	BHZA	250.0	279.00	309.00	1	405.0	3.7	1
TPSMCJ300A	TPSMCJ300CA	GJEA	BJEA	300.0	335.00	371.00	1	486.0	3.1	1
TPSMCJ350A	TPSMCJ350CA	GJGA	BJGA	350.0	391.00	432.00	1	567.0	2.6	1
TPSMCJ400A	TPSMCJ400CA	GJKA	BJKA	400.0	447.00	494.00	1	648.0	2.3	1
TPSMCJ440A	TPSMCJ440CA	GJMA	BJMA	440.0	492.00	543.00	1	713.0	2.1	1

CHARACTERISTIC CURVES

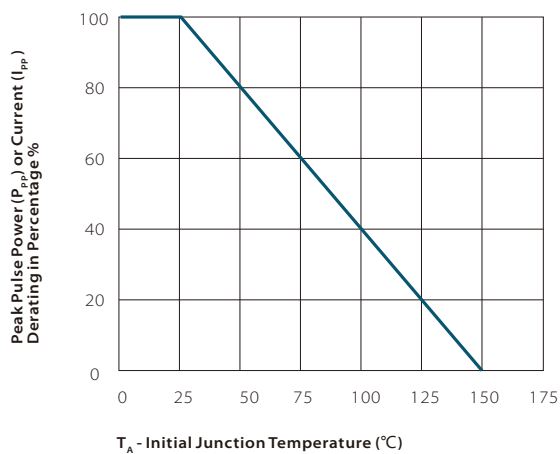
TVS Transients Clamping Waveform



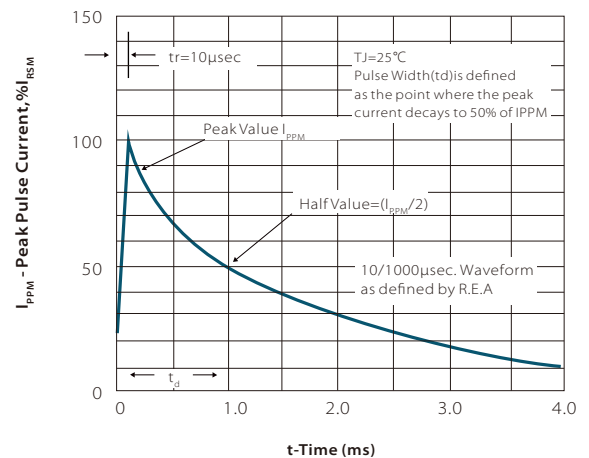
Peak Pulse Power Rating Curve

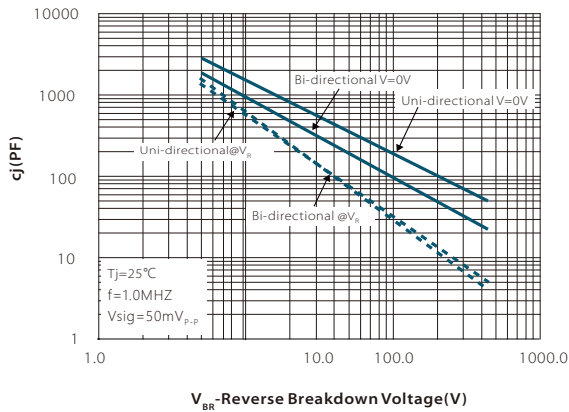
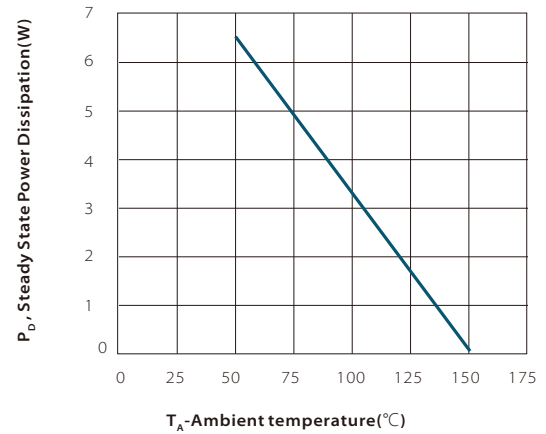


Pulse Derating Curve



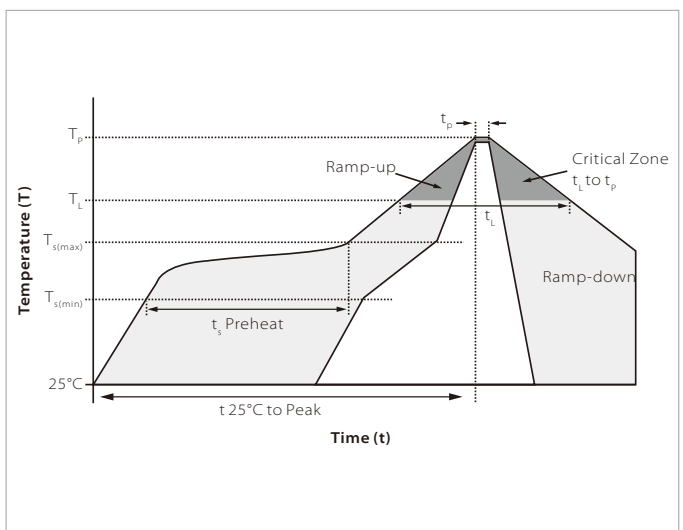
Pulse Waveform



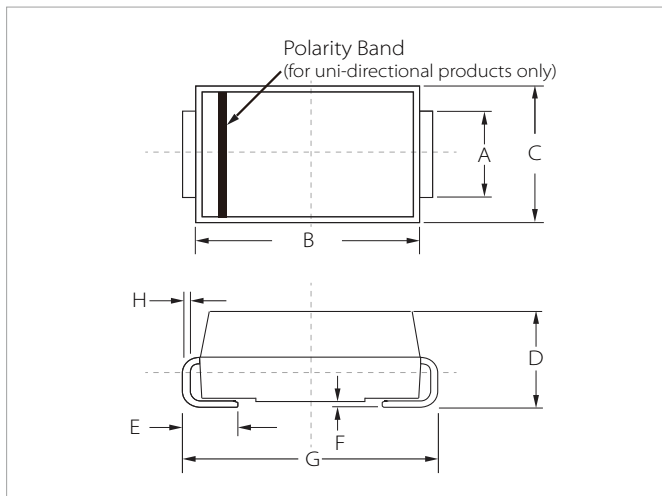
Typical Junction Capacitance

Steady State Power Dissipation Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_2)	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_1)	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

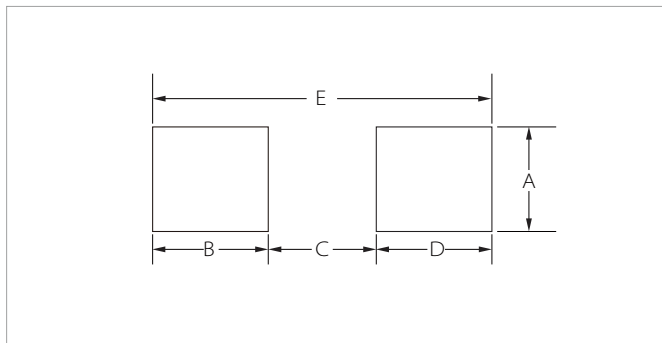


DO-214AB(SMC) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20REF		0.323REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSMCJxx(C)A	DO-214AB(SMC)	3000PCS	13"

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