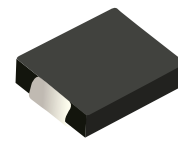
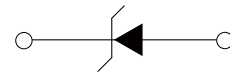


FEATURES

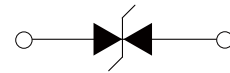
- | Low profile package
- | Ideal for automated placement
- | 5000 Watt peak pulse power capability with a 10/1000 μ s waveform
- | For surface mounted applicatons to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



DO-214AB(SMC)



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	Symbo	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform (Note1, Note2).	P_{PPM}	5000	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.

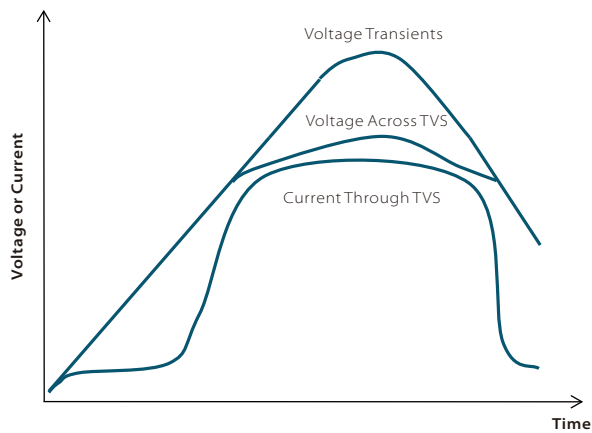
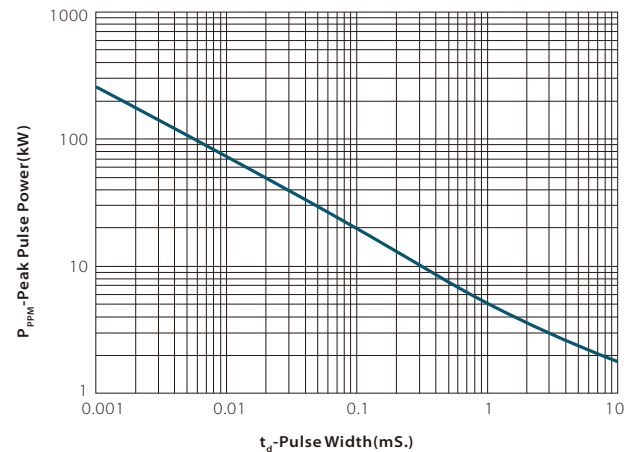
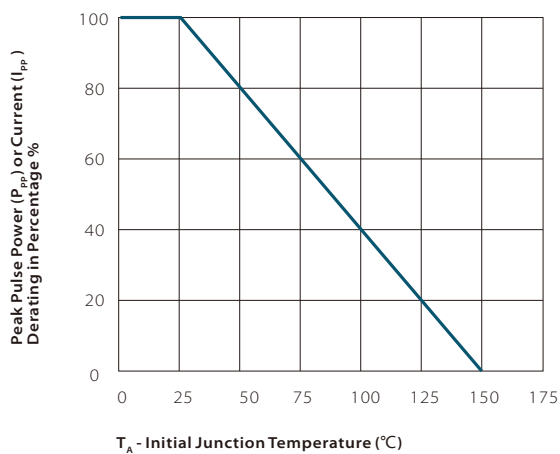
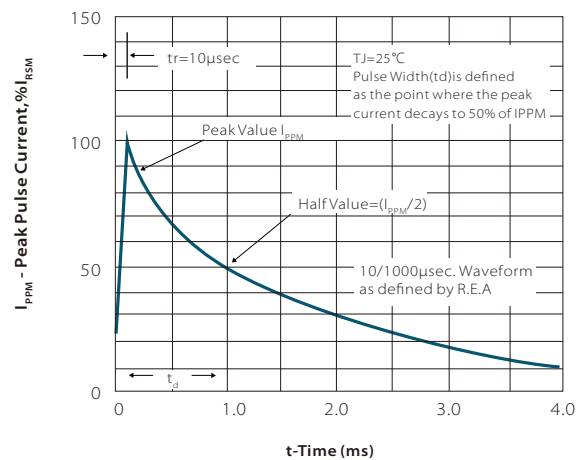
THERMAL CONSIDERATIONS

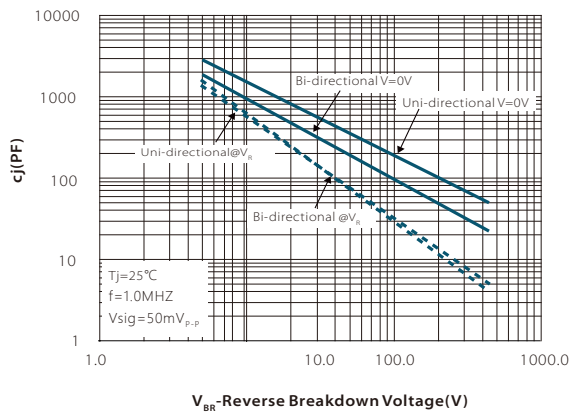
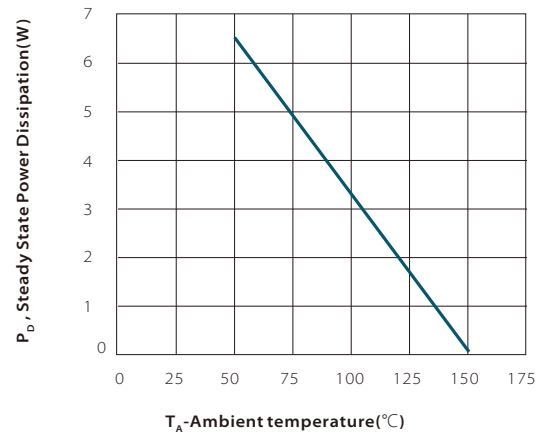
Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	75	$^{\circ}\text{C}/\text{W}$

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)
TP5.0SMDJ11A	TP5.0SMDJ11CA	5SAF	5DAF	11.0	12.20	13.50	1	18.2	275.0	1
TP5.0SMDJ12A	TP5.0SMDJ12CA	5SAG	5DAG	12.0	13.20	14.70	1	19.9	252.0	1
TP5.0SMDJ13A	TP5.0SMDJ13CA	5SAK	5DAK	13.0	14.40	15.90	1	21.5	233.0	1
TP5.0SMDJ14A	TP5.0SMDJ14CA	5SAM	5DAM	14.0	15.60	17.20	1	23.2	216.0	1
TP5.0SMDJ15A	TP5.0SMDJ15CA	5SAP	5DAP	15.0	16.70	18.50	1	24.4	205.0	1
TP5.0SMDJ16A	TP5.0SMDJ16CA	5SAR	5DAR	16.0	17.80	19.70	1	26.0	193.0	1
TP5.0SMDJ18A	TP5.0SMDJ18CA	5SAV	5DAV	18.0	20.00	22.10	1	29.2	172.0	1
TP5.0SMDJ20A	TP5.0SMDJ20CA	5SAZ	5DAZ	20.0	22.20	24.50	1	32.4	155.0	1
TP5.0SMDJ22A	TP5.0SMDJ22CA	5SBE	5DBE	22.0	24.40	26.90	1	35.5	141.0	1
TP5.0SMDJ24A	TP5.0SMDJ24CA	5SBF	5DBF	24.0	26.70	29.50	1	38.9	129.0	1
TP5.0SMDJ26A	TP5.0SMDJ26CA	5SBG	5DBG	26.0	28.90	31.90	1	42.1	119.0	1
TP5.0SMDJ28A	TP5.0SMDJ28CA	5SBK	5DBK	28.0	31.10	34.40	1	45.4	110.0	1
TP5.0SMDJ30A	TP5.0SMDJ30CA	5SBM	5DBM	30.0	33.30	36.80	1	48.4	103.0	1
TP5.0SMDJ33A	TP5.0SMDJ33CA	5SBP	5DBP	33.0	36.70	40.60	1	53.3	93.9	1
TP5.0SMDJ36A	TP5.0SMDJ36CA	5SBR	5DBR	36.0	40.00	44.20	1	58.1	86.1	1
TP5.0SMDJ40A	TP5.0SMDJ40CA	5SBT	5DBT	40.0	44.40	49.10	1	64.5	77.6	1
TP5.0SMDJ43A	TP5.0SMDJ43CA	5SBV	5DBV	43.0	47.80	52.80	1	69.4	72.1	1
TP5.0SMDJ45A	TP5.0SMDJ45CA	5SBX	5DBX	45.0	50.00	55.30	1	72.7	68.8	1
TP5.0SMDJ48A	TP5.0SMDJ48CA	5SBZ	5DBZ	48.0	53.30	58.90	1	77.4	64.7	1
TP5.0SMDJ51A	TP5.0SMDJ51CA	5SCE	5DCE	51.0	56.70	62.70	1	82.4	60.7	1
TP5.0SMDJ54A	TP5.0SMDJ54CA	5SCF	5DCF	54.0	60.00	66.30	1	87.1	57.5	1
TP5.0SMDJ58A	TP5.0SMDJ58CA	5SCG	5DCG	58.0	64.40	71.20	1	93.6	53.5	1

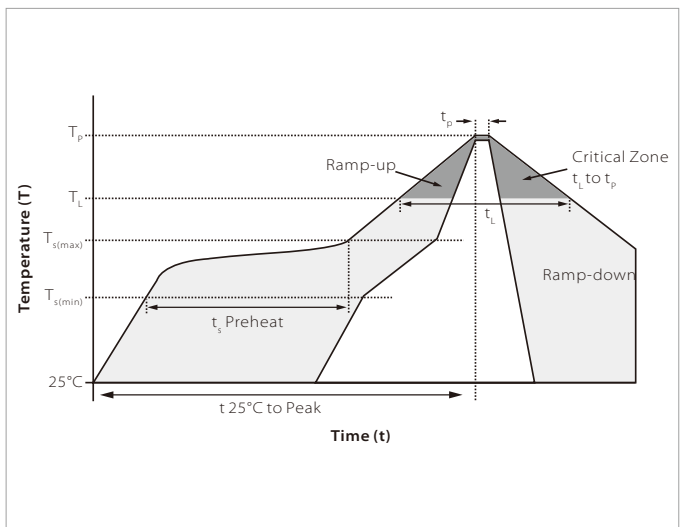
CHARACTERISTIC CURVES

TVS Transients Clamping Waveform

Peak Pulse Power Rating Curve

Pulse Derating Curve

Pulse Waveform


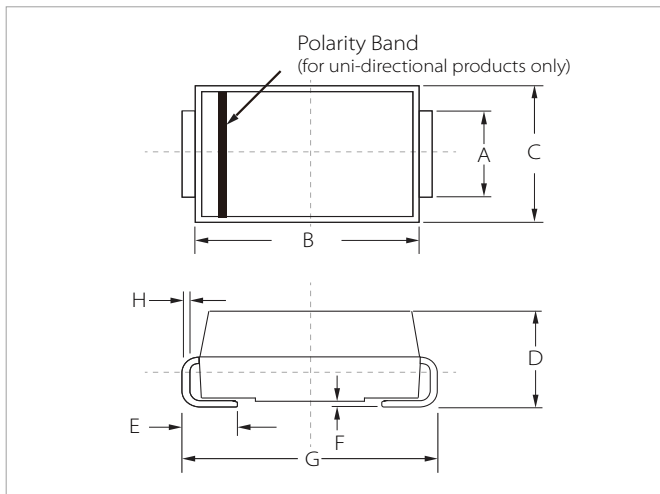
Typical Junction Capacitance

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 $^\circ\text{C}$

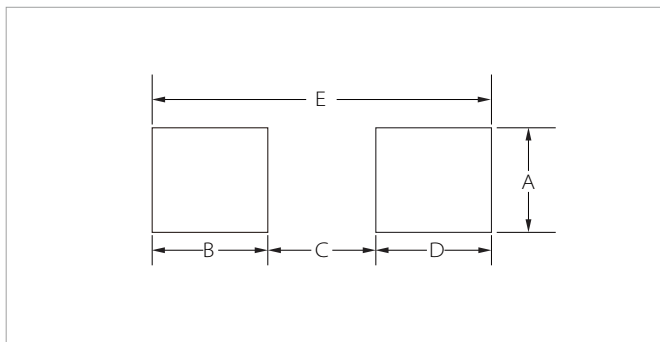


DO-214AB(SMC) PACKAGE INFORMATION



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
TP5.0SMDJxx(C)A	DO-214AB(SMC)	3000PCS	13"

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