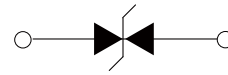


FEATURES

- | Low profile package
- | Ideal for automated placement
- | 400 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
- | Meet AEC-Q101 Requirements



DO-214AC(SMA)



Schematic Symbol

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°C)

Parameter	Symbo	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform (Note1, Note2).	P _{PPM}	400	Watts
Steady State Power Dissipation at T _L =75°C, Lead lengths.375"(9.5mm) (Note2)	P _D	3.3	Watts

- Notes :** 1.Non-repetitive current pulse,T_A=25°C.
 2.Mounted on 5.0mm x 5.0mm (0.03mm thick) Copper Pads to each terminal.

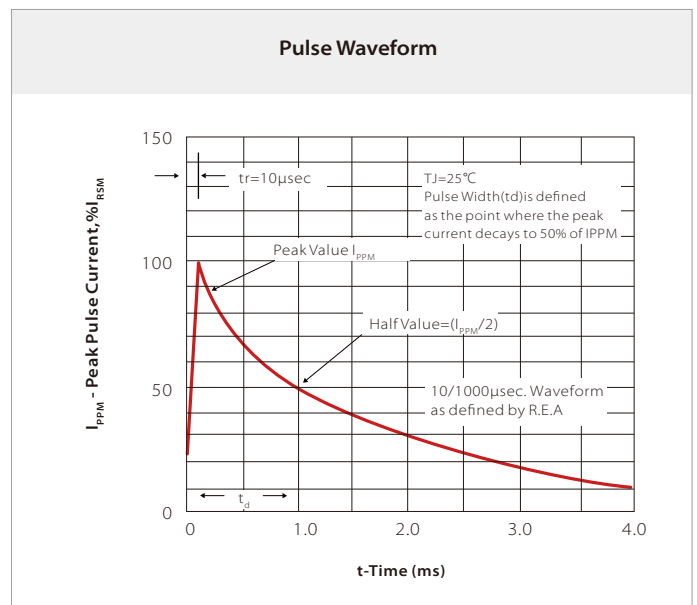
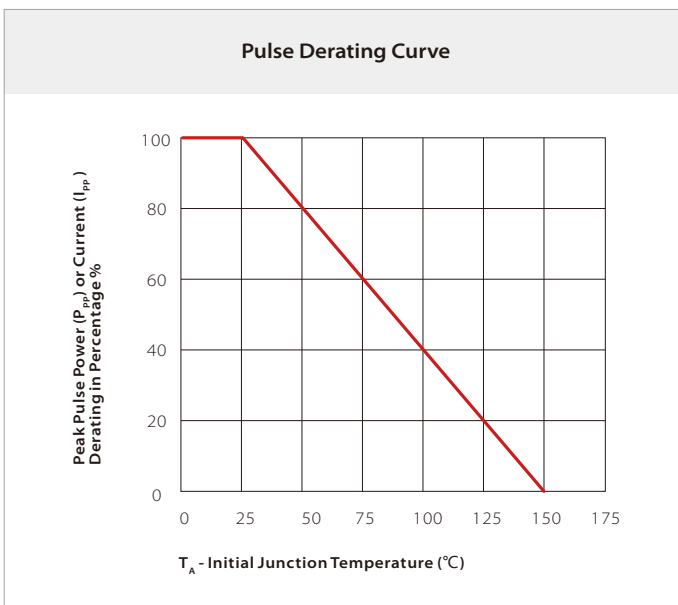
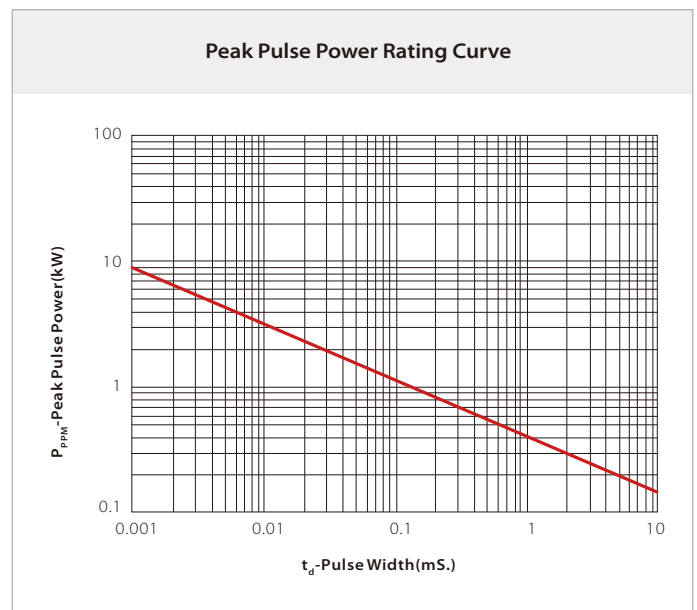
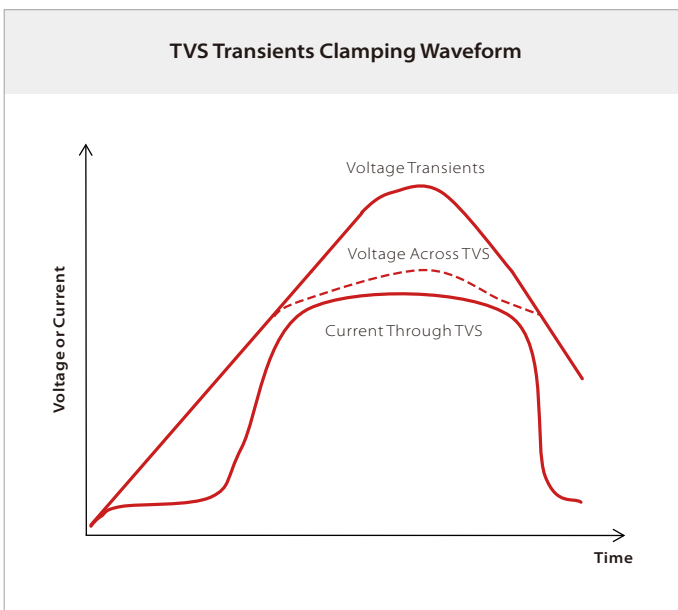
THERMAL CONSIDERATIONS

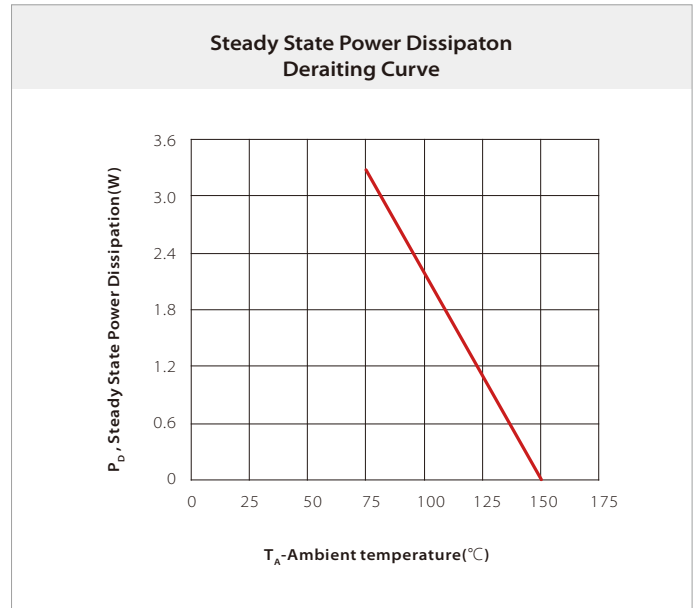
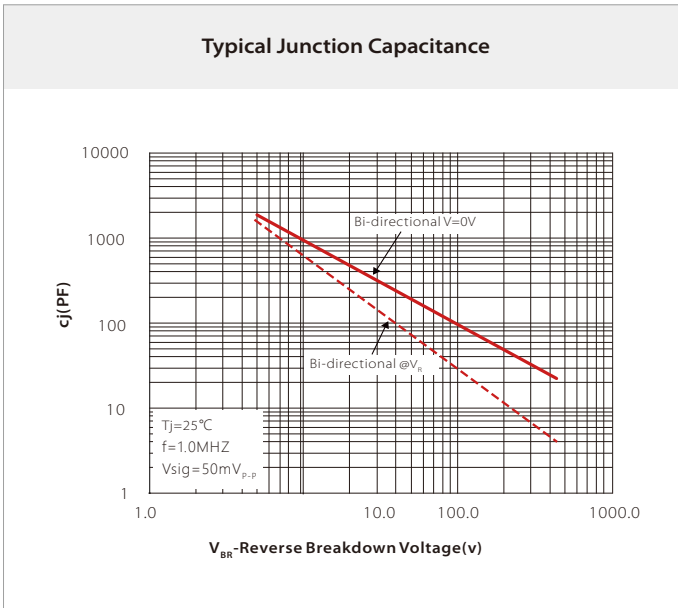
Parameter	Symbol	Value	Unit
Operating Junction Temperature	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C
Junction to Ambient on printed circuit	R _{θJA}	120	°C/W

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}
		V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{pp} (A)	I _R (uA)
TPSVA40B12	XEA	12.0	13.3	14.7	1.0	19.9	20.1	1.0

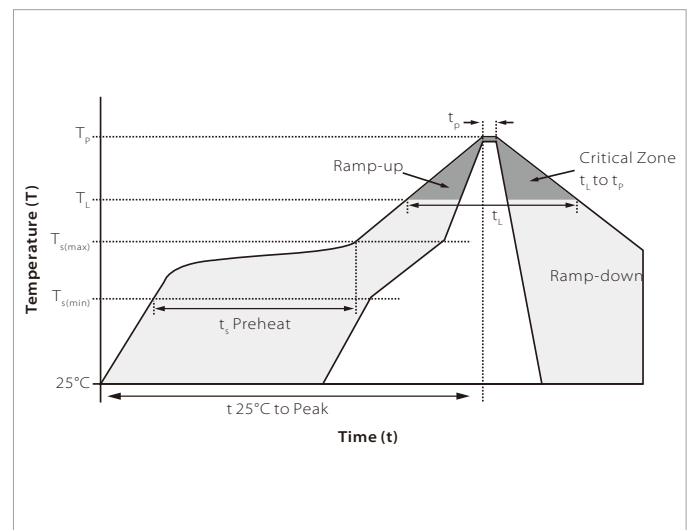
CHARACTERISTIC CURVES



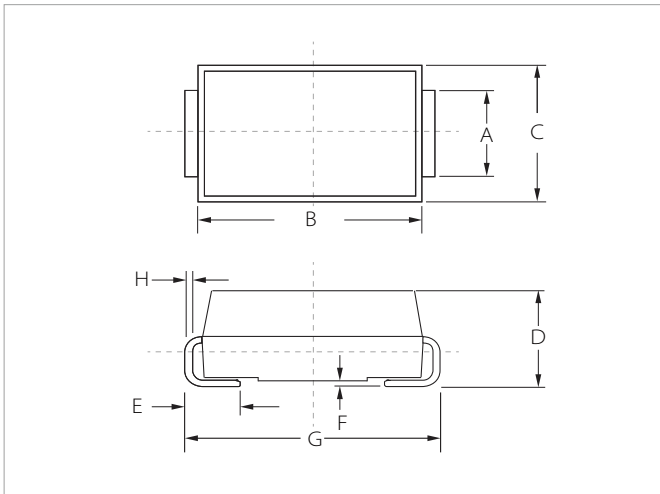


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\text{min})}$)	150 $^\circ\text{C}$
	Temperature Max ($T_{s(\text{max})}$)	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
$T_{s(\text{max})}$ 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_r)	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 $^\circ\text{C}$

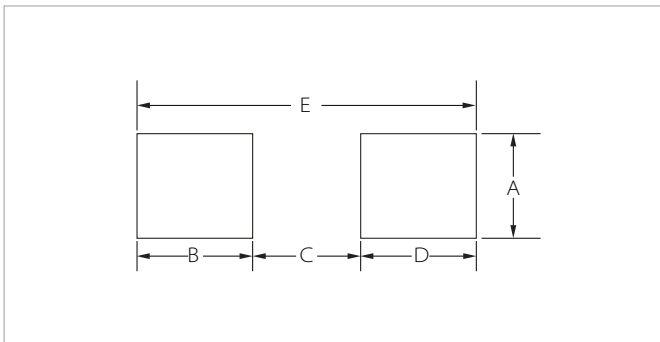


DO-214AC(SMA) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.20	1.60	0.047	0.063
B	4.20	4.60	0.165	0.181
C	2.60	2.80	0.102	0.110
D	2.10	2.40	0.083	0.094
E	0.76	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	4.85	5.25	0.191	0.207
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.63	-	0.064	-
B	1.45	-	0.057	-
C	-	2.80	-	0.090
D	1.45	-	0.057	-
E	5.28REF		0.208REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
TPSVA40B12	DO-214AC(SMA)	5000PCS	13"

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By QR Code

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