

## FEATURES

- | Low profile package

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- | Ideal for automated placement

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- | 1000 Watt peak pulse power capability with a 10/1000 $\mu$ s waveform

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- | For surface mounted applicatons to optimize board space

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- | Excellent clamping capability

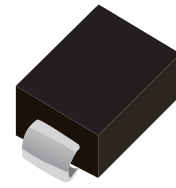
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- | Very fast response time

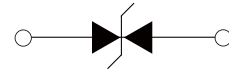
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- | Low incremental surge resistance

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DO-214AA(SMB)



Schematic Symbol

## APPLICATIONS

- | Power supply protection

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- | Automotive application

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- | Industrial application

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- | Power management

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## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 $\mu$ s 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 x 5.0mm (0.03mm thick) Copper Pads to each terminal.

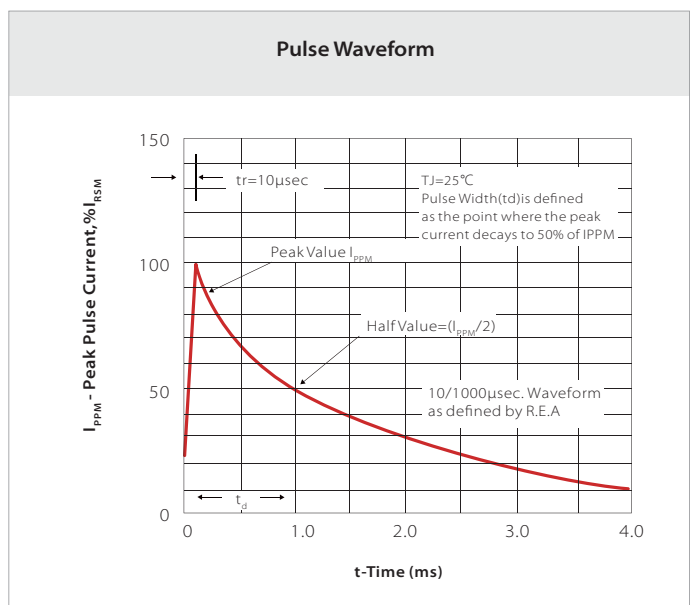
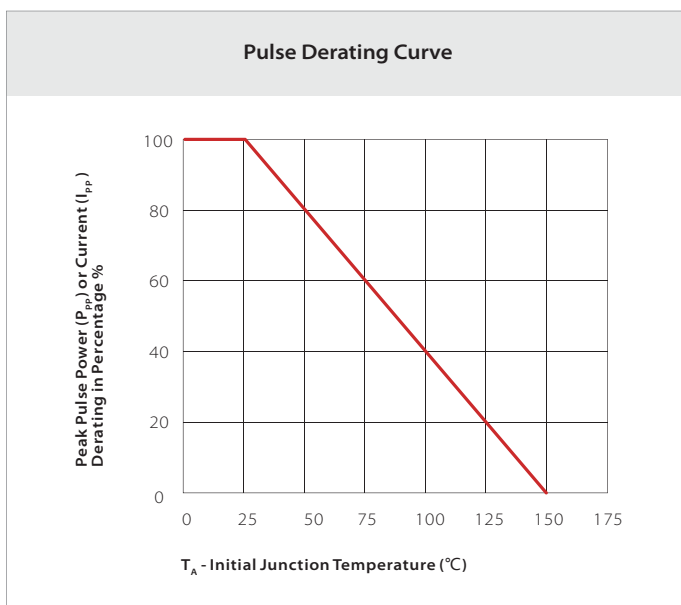
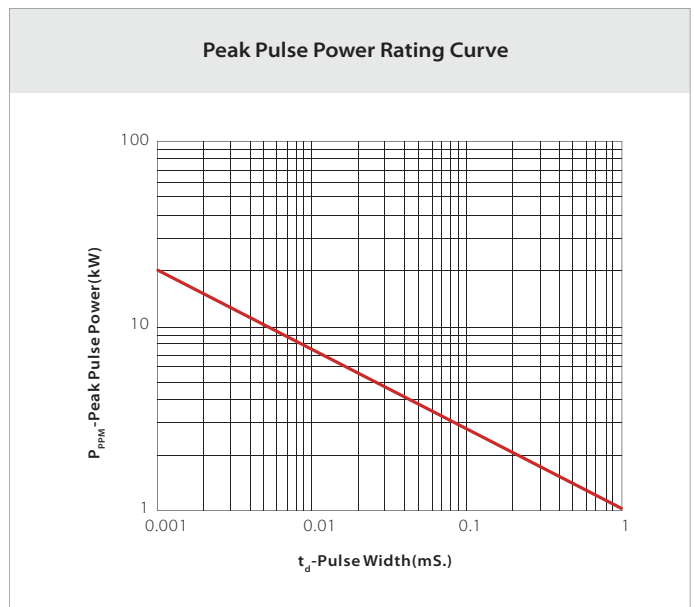
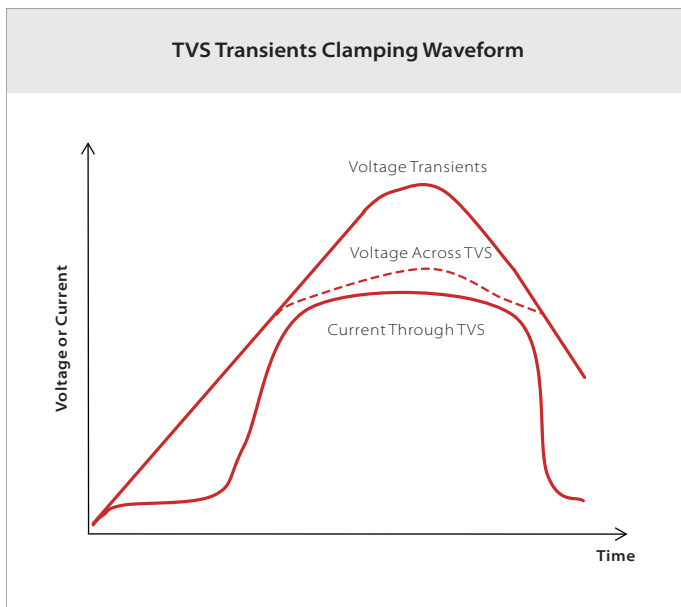
## THERMAL CONSIDERATIONS

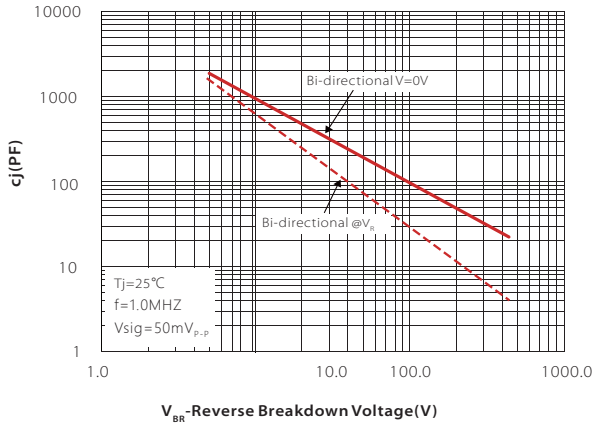
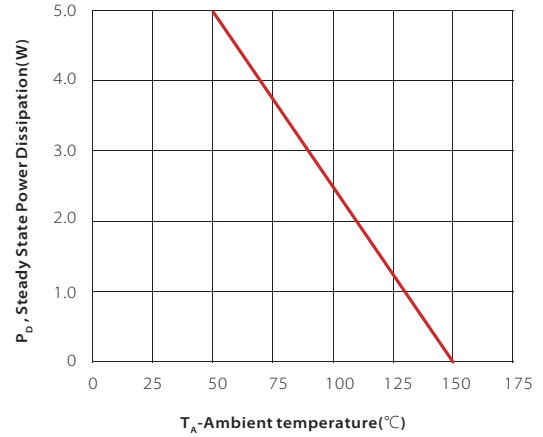
Parameter	Symbol	Value	Unit
Operating Junction Temperature	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on printed circuit	$R_{\theta JA}$	90	$^{\circ}\text{C}/\text{W}$

# ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@I <sub>T</sub>	Breakdown Voltage Max.@I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
		V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SVB100B20	TBV	20.0	22.2	24.5	1.0	32.4	30.9	1.0

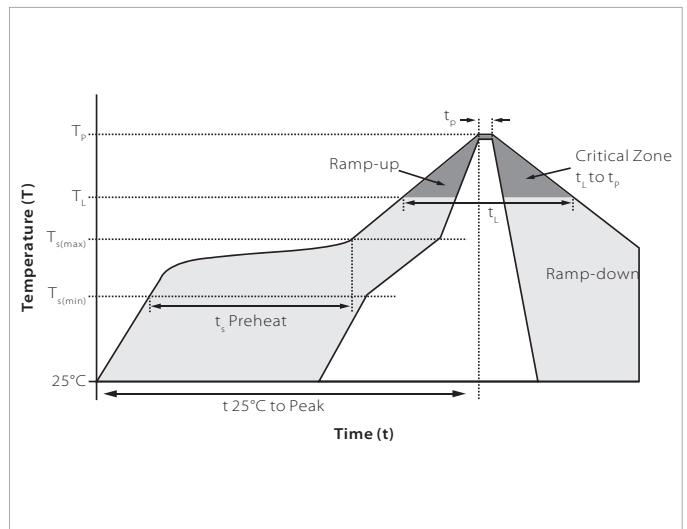
## CHARACTERISTIC CURVES



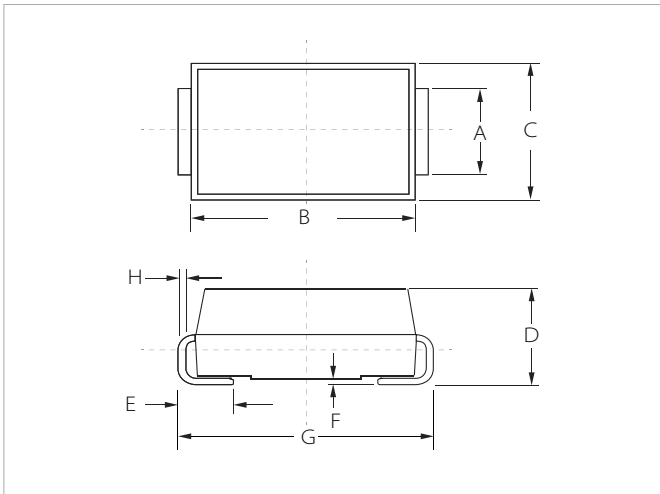
**Typical Junction Capacitance**

**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

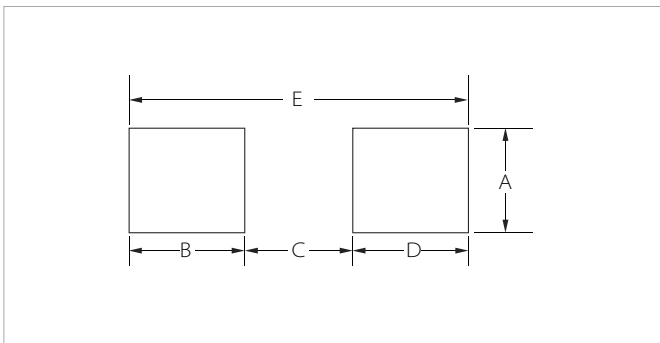


## DO-214AA(SMB) PACKAGE INFORMATION



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	2.55	0.085	0.100
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
SVB100B20	DO-214AA(SMB)	3000PCS	13"

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