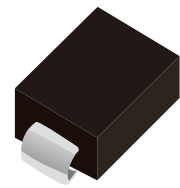
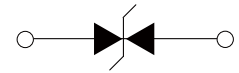


FEATURES

- | Excellent clamping capability
- | Low profile package and low inductance
- | High peak pulse voltage capability at 1.2/50 μ s-8/20 μ s@2 Ω waveform
- | Fast response time: typically less than 1.0ps from 0V to VBR min
- | For surface mounted applications in order to optimize board space
- | IEC61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact)



DO-214AA(SMB)



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

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Steady state power dissipation at $T_L=75^{\circ}\text{C}$	$P_{M(AV)}$	6.5	W
Peak pulse voltage at 1.2/50 μ s-8/20 μ s@2 Ω waveform	V_{PP}	2000	V

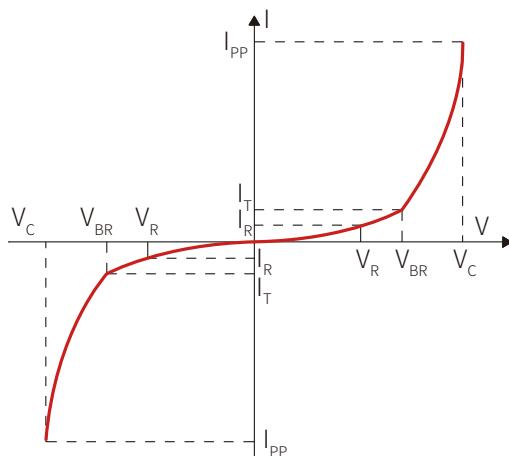
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number	Device Marking Code	V _{RWM}	V _{BR} @I _T	I _R @V _R		I _T	V _H	V _C @V _{PP} ^①	V _{PP} ^①
		V	Min(V)	Max(V)	Max(μA)	mA	Typ(V)	Max(V)	V
SMB1KJ20CA	K20C	20	22.0	24.5	1	1	21	40	2000

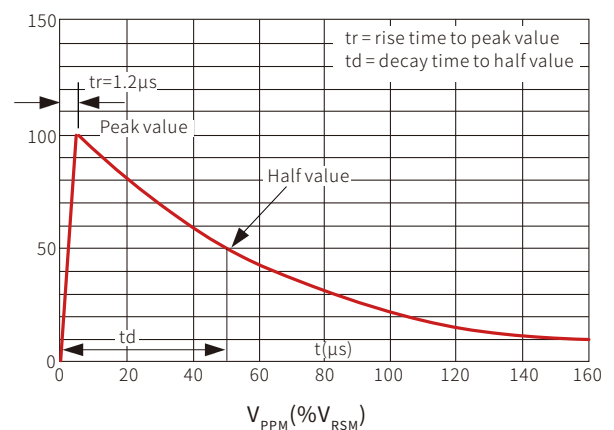
① Surge waveform: 1.2/50μs-8/20μs@2Ω

CHARACTERISTIC CURVES

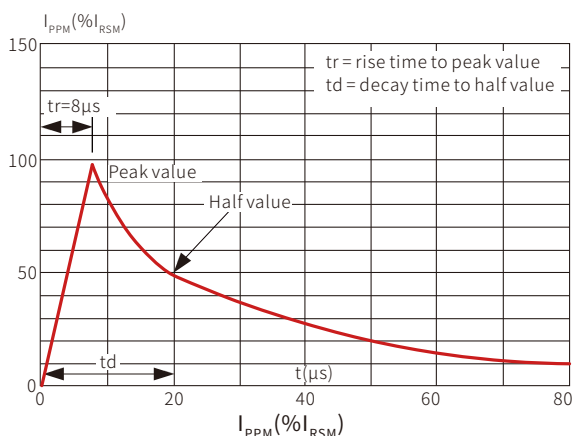
V- I curve characteristics



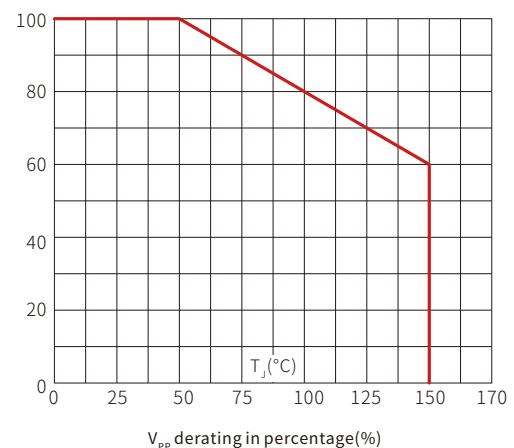
Pulse waveform



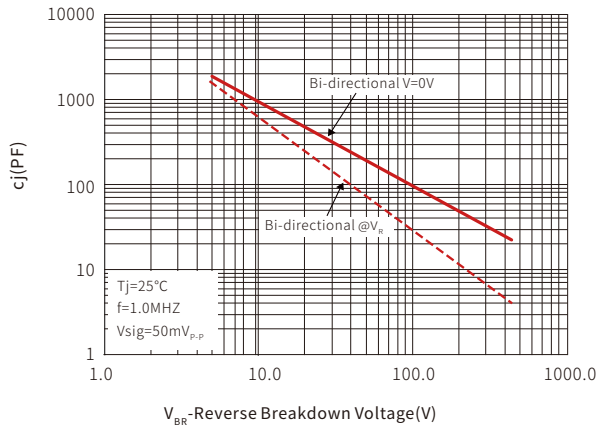
Pulse waveform



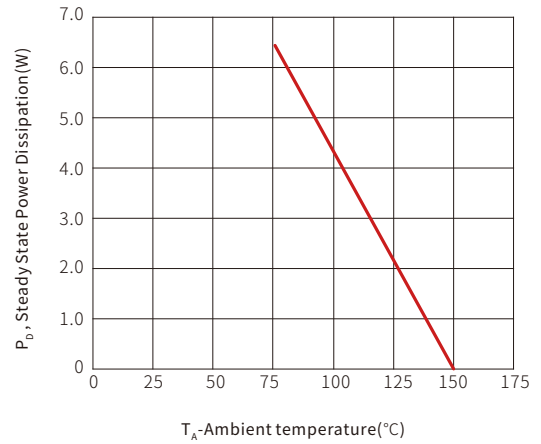
Pulse Waveform



Typical Junction Capacitance

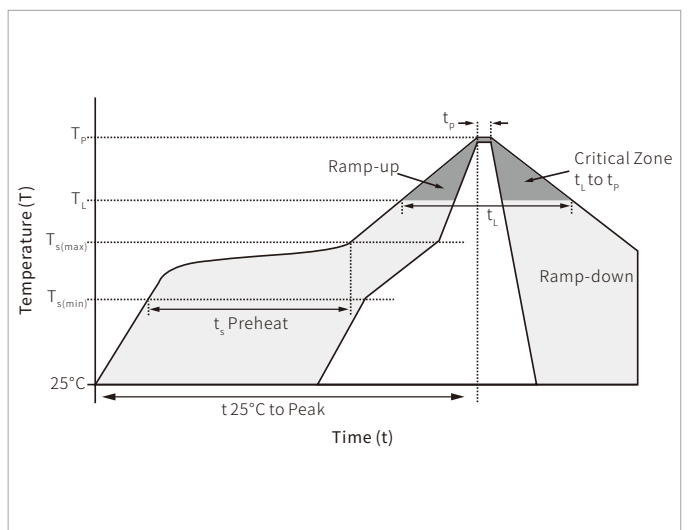


Steady State Power Dissipation Derating Curve

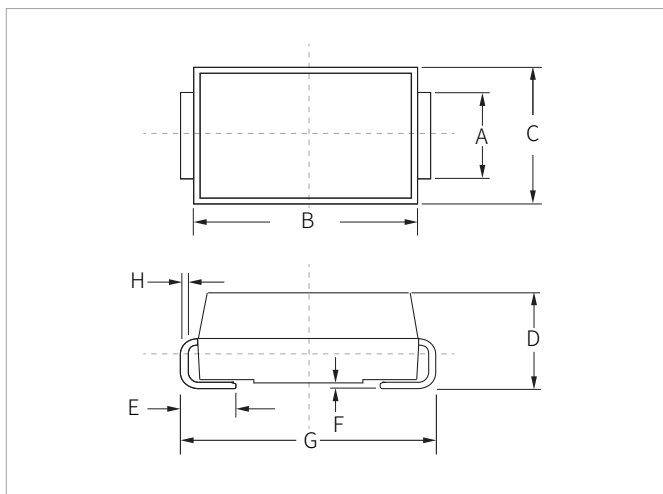


SOLDERING PARAMETERS

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

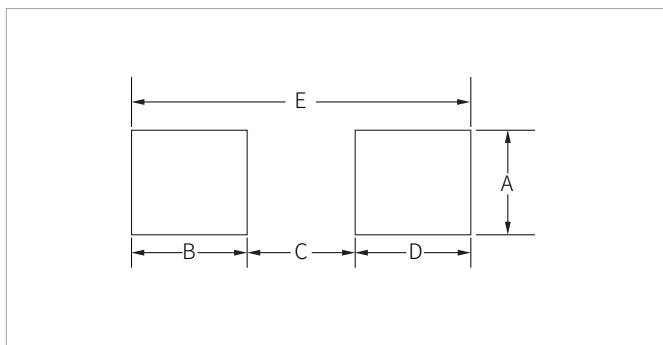


DO-214AA(SMB) PACKAGE INFORMATION



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
SMB1KJ20CA	DO-214AA(SMB)	3000PCS	13"

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By QR Code

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Wechat

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