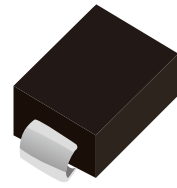
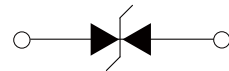


## DESCRIPTION

The SMB20J58CA is designed for DC48V,PoE supply equipment,It is used to replace the SMDJ series TVS,also can be solved the PoE normal solu) on which use TSPD



DO-214AA(SMB)



Schematic Symbol

## FEATURES

- | Working reverse voltage :58V
- | Low profile package
- | Excellent clamping capability
- | Fast response )time: typically less than 5 ns from 0 Volts to  $V_{BR}$  Min

## SUGRE LEVEL

- | 10/700us:40 ohm,4KV
- | 1.2/50us-8/20us: 2 ohm, 1KV

## 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).	$P_{PPM}$	2000	Watts
Steady State Power Dissipation at $T_A=75^{\circ}\text{C}$ (Note2).	$P_D$	5.0	Watts

- Notes :** 1.Non-repetitive current pulse, $T_A=25^{\circ}\text{C}$ .  
 2.Mounted on 5.0mm\*5.0mm (0.03mm thick) Copper Pads to each terminal.

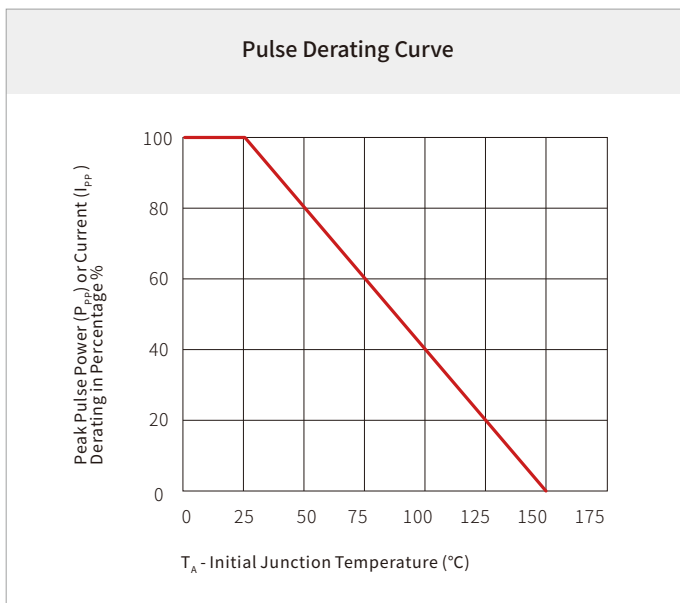
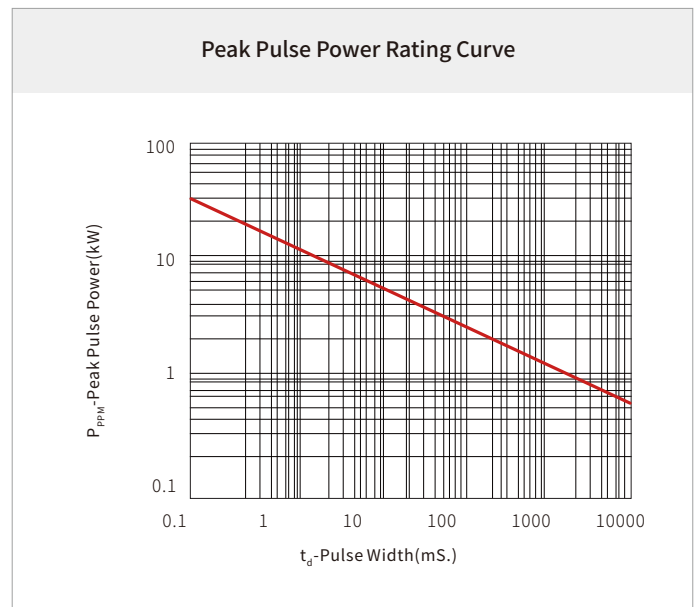
## THERMAL CONSIDERATIONS

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	$^{\circ}\text{C}/\text{W}$

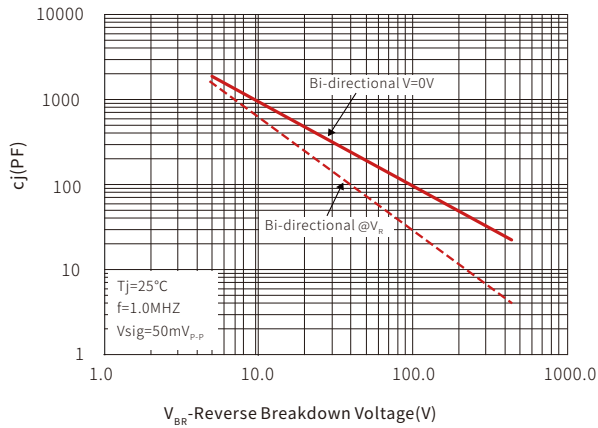
# ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

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	V <sub>c</sub> @10/700μs 4KV/40Ω Max.	V <sub>c</sub> @8/20μs 500A Max.	V <sub>c</sub> @10/1000μs Max.	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)	V <sub>c</sub> (V)	V <sub>c</sub> (V)	I <sub>R</sub> (μA)
SMB20J58CA	CGG	58.0	60.0	72.0	1.0	85.0	85.0	85.0	1.0

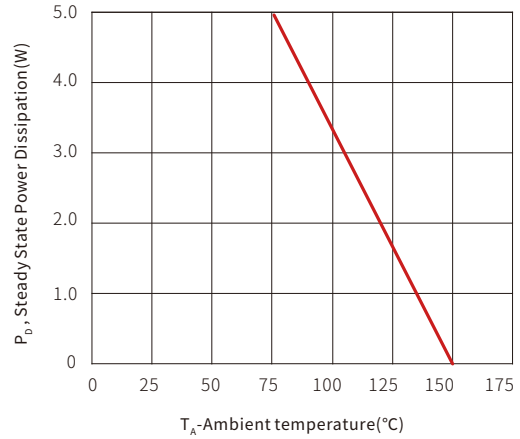
## CHARACTERISTIC CURVES



Typical Junction Capacitance

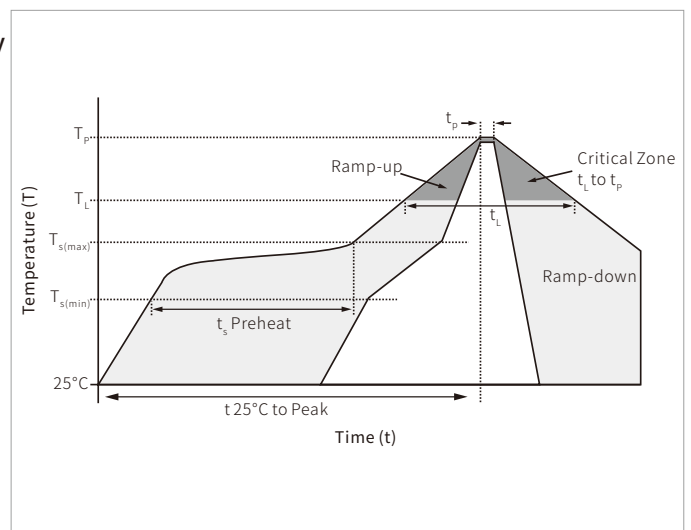


Steady State Power Dissipation Derating Curve

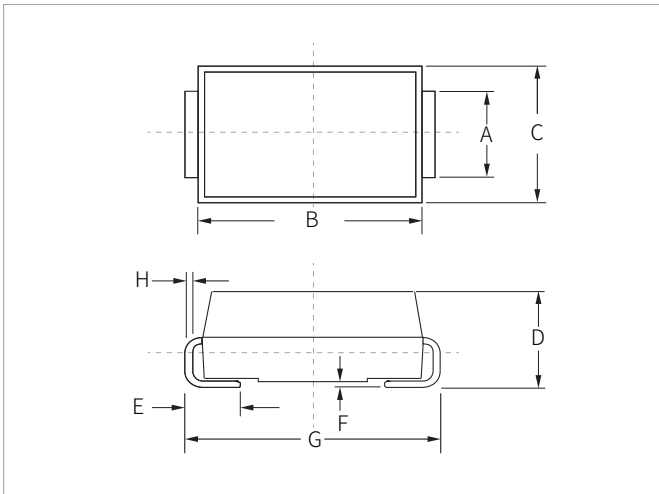


## SOLDERING PARAMETERS

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) ( $t_r$ )	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

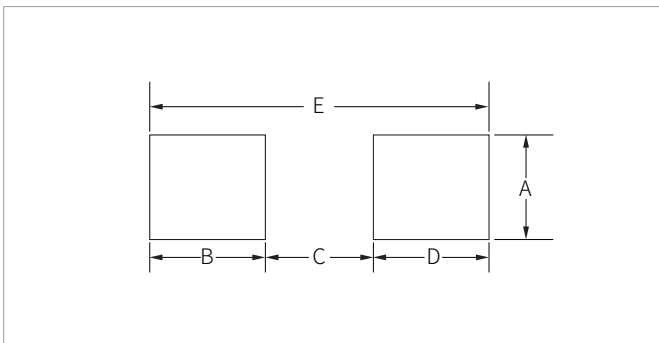


## PACKAGE INFORMATION



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
SMB20J58CA	DO-214AA(SMB)	3000PCS	13"

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