



**THE DATASHEET OF
SMB10J20CA R5G**



1000W Surface Mount Transient Voltage Suppressor

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated junction
- Excellent clamping capability
- Fast response time: typically less than 1.0ps
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



DO-214AA (SMB)

MECHANICAL DATA

Case: DO-214AA (SMB)

Molding compound: UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Weight: 0.11 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation at T _A =25°C, tp=1ms (Note 1)	P _{PK}	1000	W
Steady state power dissipation	P _D	5	W
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for unidirectional only	V _F	3.5	V
Typical thermal resistance	R _{θJL} R _{θJA}	20 100	°C/W
Operating junction temperature range	T _J	- 55 to +175	°C
Storage temperature range	T _{STG}	- 55 to +175	°C

Note 1: Non-repetitive current pulse per fig. 3 and derated above T_A=25°C per fig. 2

Devices for bipolar applications

1. For bidirectional use CA suffix

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
SMB10J30A	H	R5	G	SMB	850 / 7" Plastic reel
		R4		SMB	3,000 / 13" Paper reel
		M4		SMB	3,000 / 13" Plastic reel

*: Optional available

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SMB10J30AHR5G	SMB10J30A	H	R5	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

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

FIG. 1 PEAK PULSE POWER RATING CURVE

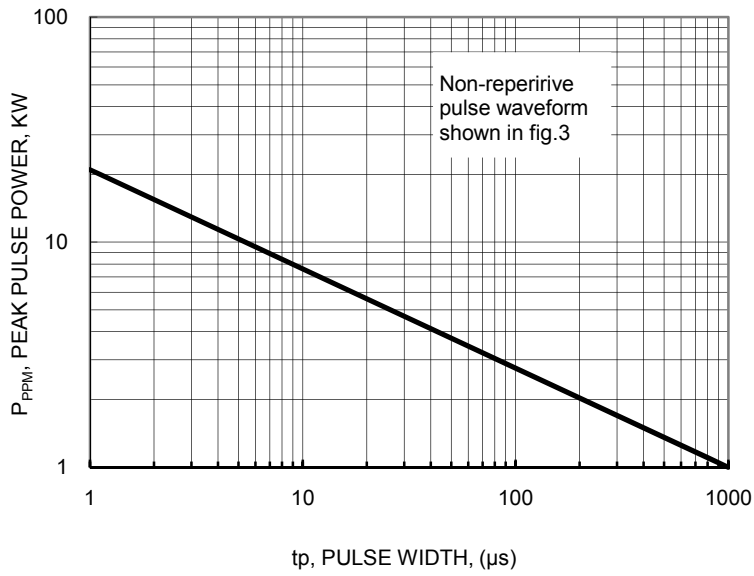


FIG. 2 PULSE DERATING CURVE



FIG. 3 CLAMPING POWER PULSE WAVEFORM

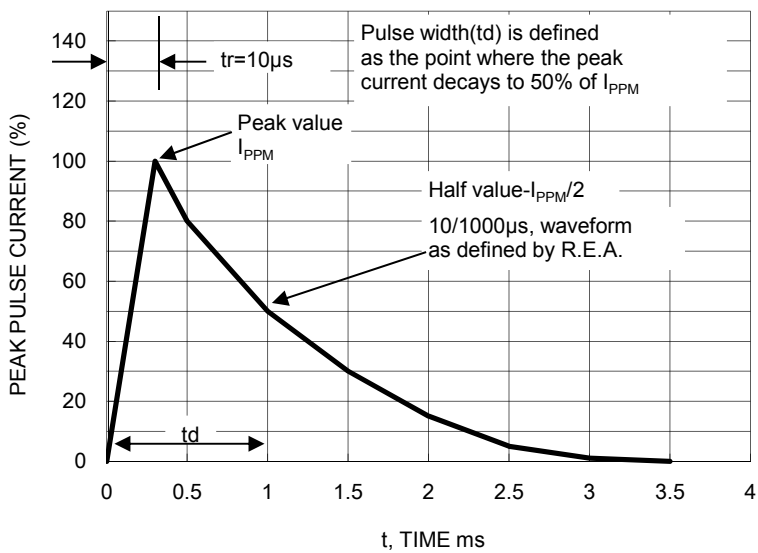
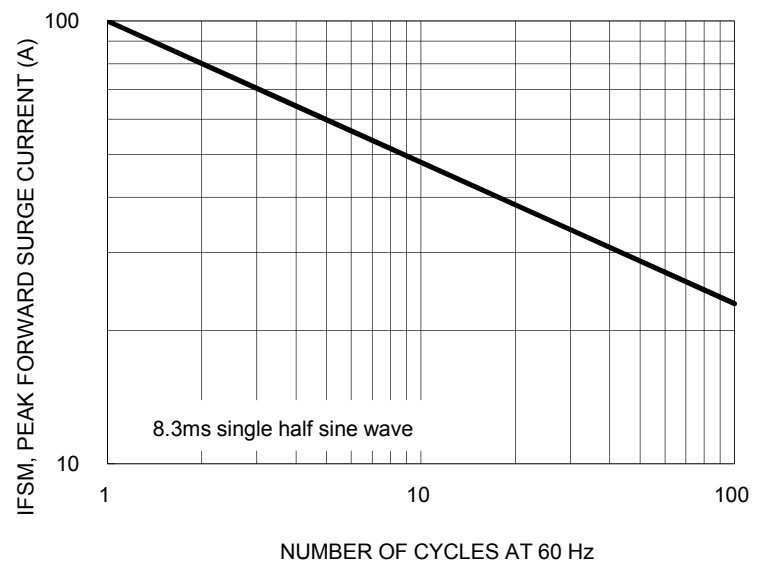


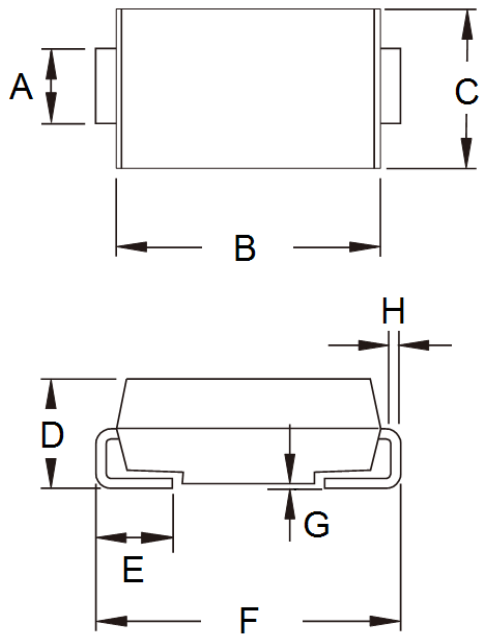
FIG. 4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY



Device		Device Marking Code		Breakdown Voltage V_{BR} (V)		Test Current I_T (mA)	Stand-Off Voltage V_{WM} (V)	Maximum Reverse Leakage @ V_{WM} I_R (μ A)	Maximum Peak Pulse Current I_{PPM} (A)	Maximum Clamping Voltage @ I_{PPM} V_C (V)
UNI	BI	UNI	BI	Min	Max					
SMB10J9.0A	SMB10J9.0CA	1KV	KVC	10.0	11.1	1	9	10	64.9	15.4
SMB10J10A	SMB10J10CA	1KX	KXC	11.1	12.3	1	10	8	58.8	17.0
SMB10J11A	SMB10J11CA	1KZ	KZC	12.2	13.5	1	11	5	54.9	18.2
SMB10J12A	SMB10J12CA	1LE	LEC	13.3	14.7	1	12	5	50.3	19.9
SMB10J13A	SMB10J13CA	1LG	LGC	14.4	15.9	1	13	5	46.5	21.5
SMB10J14A	SMB10J14CA	1LK	LKC	15.6	17.2	1	14	5	43.1	23.2
SMB10J15A	SMB10J15CA	1LM	LMC	16.7	18.5	1	15	1	41.0	24.4
SMB10J16A	SMB10J16CA	1LP	LPC	17.8	19.7	1	16	1	38.5	26.0
SMB10J17A	SMB10J17CA	1LR	LRC	18.9	20.9	1	17	1	36.2	27.6
SMB10J18A	SMB10J18CA	1LT	LTC	20.0	22.1	1	18	1	34.2	29.2
SMB10J20A	SMB10J20CA	1LV	LVC	22.2	24.5	1	20	1	30.9	32.4
SMB10J22A	SMB10J22CA	1LX	LXC	24.4	26.9	1	22	1	28.2	35.5
SMB10J24A	SMB10J24CA	1LZ	LZC	26.7	29.5	1	24	1	25.7	38.9
SMB10J26A	SMB10J26CA	1ME	MEC	28.9	31.9	1	26	1	23.8	42.1
SMB10J28A	SMB10J28CA	1MG	MGC	31.1	34.4	1	28	1	22.0	45.4
SMB10J30A	SMB10J30CA	1MK	MKC	33.3	36.8	1	30	1	20.7	48.4
SMB10J33A	SMB10J33CA	1MM	MMC	36.7	40.6	1	33	1	18.8	53.3
SMB10J36A	SMB10J36CA	1MP	MPC	40.0	44.2	1	36	1	17.2	58.1
SMB10J40A	SMB10J40CA	1MR	MRC	44.4	49.1	1	40	1	15.5	64.5

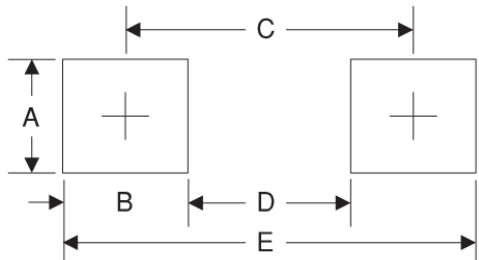
PACKAGE OUTLINE DIMENSIONS

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.10	0.077	0.083
B	4.25	4.75	0.167	0.187
C	3.48	3.73	0.137	0.147
D	1.99	2.61	0.078	0.103
E	0.90	1.41	0.035	0.056
F	5.10	5.30	0.201	0.209
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	2.3	0.091
B	2.5	0.098
C	4.3	0.169
D	1.8	0.071
E	6.8	0.268

MARKING DIAGRAM



- P/N = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

Note: Cathode band for uni-directional products only

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

[View SMB10J20CA R5G on WIN SOURCE](#)

[Taiwan Semiconductor Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management