



400W, 600W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Features

- 400, 600W Peak Pulse Power Dissipation
- 70V Standoff Voltage
- 100V Maximum Clamping Voltage
- Suitable for 48V Backplane Telecom Applications
- Glass Passivated Die Construction
- Fast Response Time: Typically Less than 1ps
- Lead-Free Finish; RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SMA / SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Lead-Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 63
- Polarity Indicator: Cathode Band
- Weight: SMA 0.064 grams (Approximate) SMB 0.093 grams (Approximate)







Ordering Information (Note 4)

Part Number	Case	Packaging
SMAT70A-13-F	SMA	5,000/Tape & Reel
SMBT70A-13-F	SMB	3,000/Tape & Reel

Notes:

- 1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http"//www.diodes.com/products/packages.html.

Marking Information



xxx = Product Type Marking Code See Electrical Characteristics Table ∃ = Manufacturers' Code Marking YWW = Date Code Marking Y = Last Digit of Year ex: 4 for 2014 WW = Week Code 01 to 53



Maximum Ratings (@T_A = +25°C unless otherwise specified.)

Characteristic	Symbol	SMAT70A	SMBT70A	Unit
Peak Pulse Power Dissipation	D	400	600	W
(Non-repetitive current pulse derated above $T_A = +25$ °C)	P _{PK}	400	000	VV
Peak Forward Surge Current, 8.3ms Single Half-Sine Wave	l=	40	100	Δ
Superimposed on Rated Load (Note 5)	IFSM	40	100	^
Instantaneous Forward Voltage @ I _{PP} = 35A (Note 5)	V_{F}	3.5		V

Thermal Characteristics

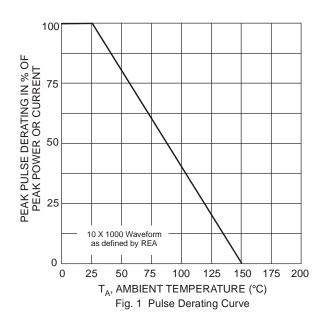
Characteristic	Symbol	Value	Unit
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

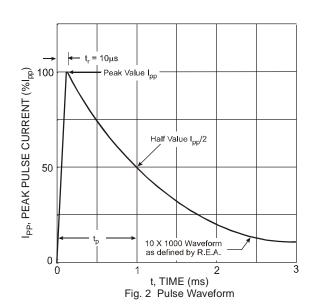
Electrical Characteristics (@T_A = +25°C unless otherwise specified.)

Part Number	Reverse Standoff Voltage	V_{BR}	down age @ I _T te 6)	Test Current	Max. Reverse Leakage @ V _{RWM}	Max. Clamping Voltage @ I _{pp}	Max. Peak Pulse Current I _{pp}	Typical Total Capacitance (Note 6)	Typical Voltage Temp. Variation of V _{BR}	Marking Code
	V _{RWM} (V)	Min (V)	Max (V)	I _T (mA)	I _R (μA)	V _C (V)	(A)	(pF)	mV/°C	
SMAT70A	70	77.8	89.5	1.0	5.0	100	3.5	140	80	KEX
SMBT70A	70	77.8	89.5	1.0	5.0	100	5.3	290	80	NPX

Notes: 5. V_{BR} measured with I_T current pulse = 10 ~ 15 ms.

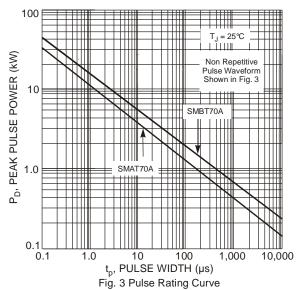
6. f = 1MHz, $V_R = 0VDC$.











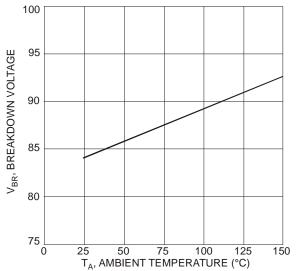
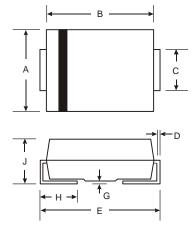


Fig. 4 Average Breakdown Voltage vs. Ambient Temperature

Package Outline Dimensions

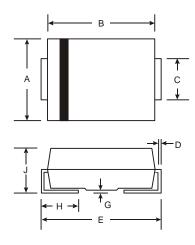
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.





SMA		
Dim	Min	Max
Α	2.29	2.92
В	4.00	4.60
С	1.27	1.63
D	0.15	0.31
Е	4.80	5.59
G	0.05	0.20
Н	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

(2) SMB



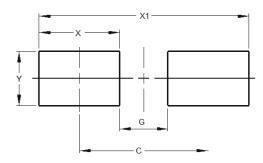
SMB			
Dim	Min	Max	
Α	3.30	3.94	
В	4.06	4.57	
С	1.96	2.21	
D	0.15	0.31	
Е	5.00	5.59	
G	0.05	0.20	
Н	0.76	1.52	
J	2.00	2.50	
All Dimensions in mm			



Suggested Pad Layout

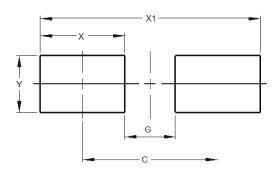
Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.

(1) SMA



Dimensions	Value (in mm)
С	4.00
G	1.50
Х	2.50
X1	6.50
Y	1.70

(2) SMB



Dimensions	Value (in mm)
С	4.30
G	1.80
Х	2.50
X1	6.80
Y	2.30



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