

**400W, 600W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR**
**Features**

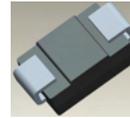
- 400, 600W Peak Pulse Power Dissipation
- 70V Standoff Voltage
- 100V Maximum Clamping Voltage - A requirement of many - 48V Backplane Telecom Applications
- Glass Passivated Die Construction
- Fast Response Time: Typically less than 1 ps
- **Lead Free Finish, RoHS Compliant (Note 4)**
- **Green Molding Compound (No Halogen and Antimony) (Note 5)**
- **Qualified to AEC-Q101 Standards for High Reliability**

**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
- Polarity Indicator: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: SMA 0.064 grams (approximate)  
SMB 0.093 grams (approximate)



Top View



Bottom View

**Maximum Ratings** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	SMAT70A	SMBT70A	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$ )	$P_{PK}$	400	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (Note 2)	$I_{FSM}$	40	100	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Note 2)	$V_F$	3.5		V

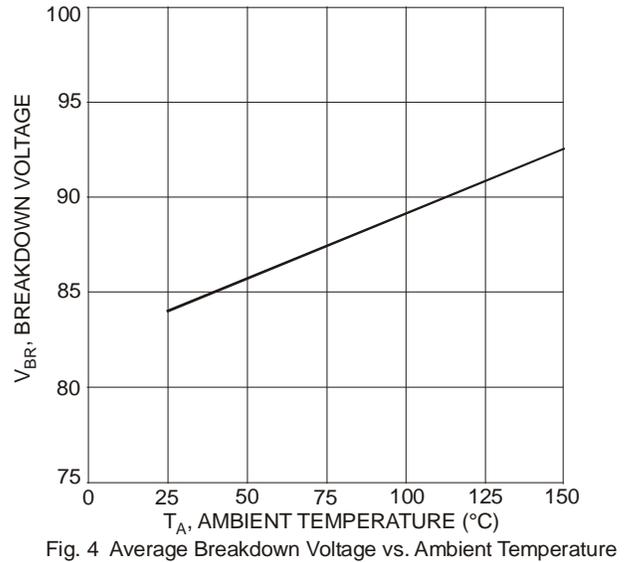
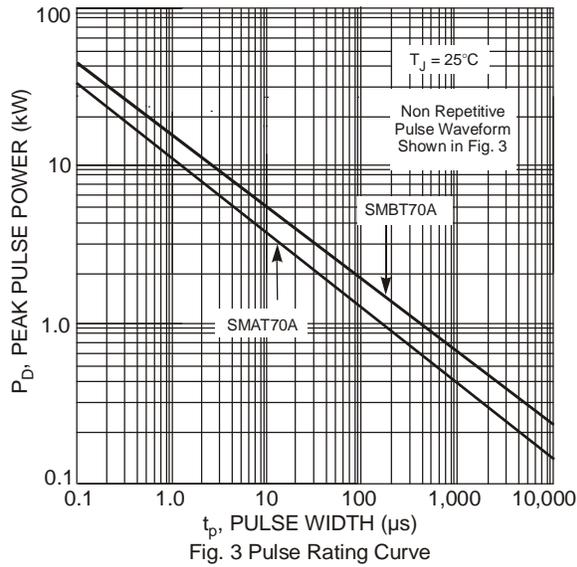
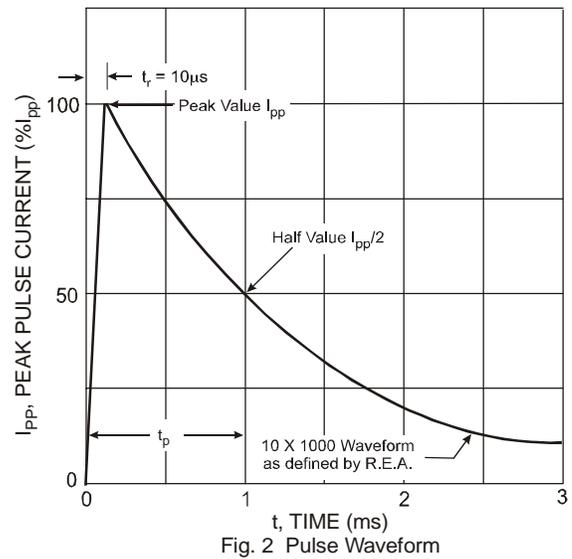
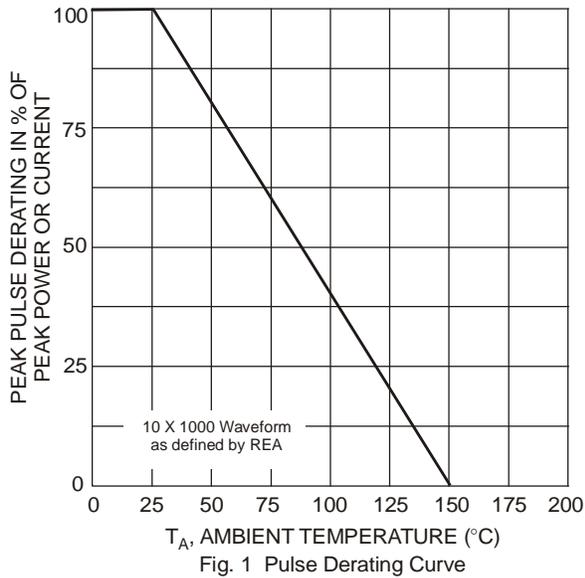
**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Part Number	Reverse Standoff Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$ (Note 3)		Test Current	Max. Reverse Leakage @ $V_{RWM}$	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current $I_{PP}$	Typical Junction Capacitance (Note 3)	Typical Voltage Temp. Variation of $V_{BR}$	Marking Code
	$V_{RWM}$ (V)	Min (V)	Max (V)	$I_T$ (mA)	$I_R$ ( $\mu\text{A}$ )	$V_C$ (V)	(A)	(pF)	mV/ $^\circ\text{C}$	
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:
1. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
  2.  $V_{BR}$  measured with  $I_T$  current pulse = 300 $\mu\text{s}$ .
  3.  $f = 1\text{MHz}$ ,  $V_R = 0\text{VDC}$ .
  4. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied. Please visit our website at [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html).
  5. Product manufactured with Data Code 0924 (week 24, 2009) and newer are built with Green Molding Compound.

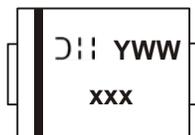


**Ordering Information** (Note 6)

Part Number	Case	Packaging
SMAT70A-13-F	SMA	5000/Tape & Reel
SMBT70A-13-F	SMB	3000/Tape & Reel

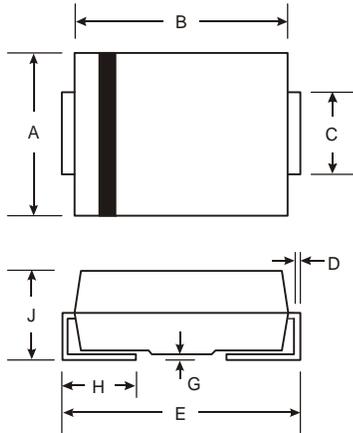
Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



xxx = Product type marking code  
See Electrical Characteristics Table  
DII = Manufacturers' code marking  
YWW = Date code marking  
Y = Last digit of year ex: 2 for 2002  
WW = Week code 01 to 52

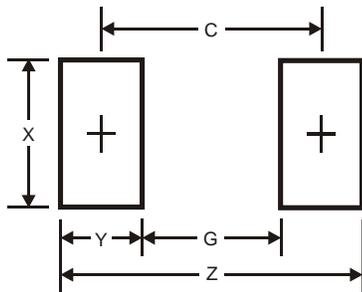
**Package Outline Dimensions**



SMA		
Dim	Min	Max
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.05	0.20
H	0.76	1.52
J	2.01	2.30
All Dimensions in mm		

SMB		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.57
C	1.96	2.21
D	0.15	0.31
E	5.00	5.59
G	0.05	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

**Suggested Pad Layout**



SMA Dimensions	Value (in mm)
Z	6.5
G	1.5
X	1.7
Y	2.5
C	4.0

SMB Dimensions	Value (in mm)
Z	6.7
G	1.8
X	2.3
Y	2.5
C	4.3

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