

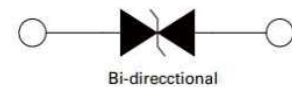
Lightning Surge Protection Working Voltage: 58V to 76V

Surface Mount Transient Voltage Suppressors

Features

- Glass passivated chip
- 10,000A Peak Pulse power capability at 8/20us waveform
- Low leakage
- Bidirectional unit
- Excellent clamping capability
- Very fast response time
- Repetitive rate (duty cycle):0.01 %
- Meet MSL level1, per J-STD-020, LF maximum peak of 245°C
- Ideal for automatic pick and place assembly and reflow process to reduce the manufacturing cost and increase the soldering quality as compared to axial leaded packages.
- Sharp breakdown voltage.

SMT0-218



Mechanical Data

- **Case:** Molded plastic over glass passivated junction.
- **Epoxy:** UL 94V-0 rate flame retardant
- **Terminal:** Matte Tin-plated leads, solderable per MIL-STD-202, Method 208.
- **Mounting position:** Any

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

Parameter	Symbol	Value	Unit
Peak pulse current with a 8/20us waveform	I_{pp}	10	kA
Operating junction temperature range	T_J, T_{STG}	-55 to +125	$^\circ\text{C}$
Storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	10	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	50	$^\circ\text{C/W}$



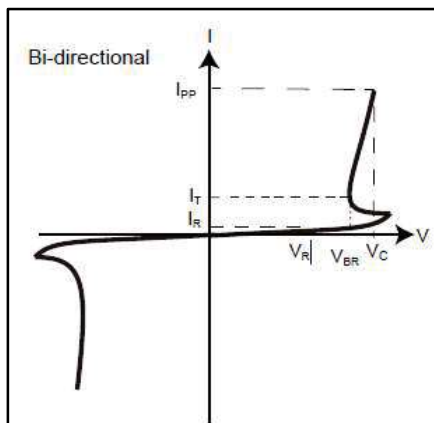
Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Numbers	Breakdown Voltage V_{BR} @ I_T			Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Leakage I_R @ V_{RWM} (uA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Temp Coefficient of V_{BR} (%/°C)
	Min (V)	Max (V)	I_T (mA)				
SMAK10-058C	64	70	10	58	10	110	0.1
SMAK10-066C	72	80	10	66	10	120	0.1
SMAK10-076C	85	95	10	76	10	140	0.1

Surge Ratings

Part Numbers	Max Peak Pulse Current (I_{PP})		
	8/20 us (A)	10/350 us (A)	
	Min.	Min.	Typ.
SMAK10-058C	10000	950	1700
SMAK10-066C	10000	950	1100
SMAK10-076C	10000	1400	1700

I-V Curve Characteristics



V_R , Standard-Off Voltage:

Maximum voltage that can be applied to the TVS without operation.

V_{BR} , Breakdown Voltage:

Maximum voltage that flows through the TVS at a specified test current (I_T).

V_C , Clamping Voltage:

Peak voltage measured across the TVS at a specified I_{ppm} (peak impulse current).

I_R , Reverse Leakage Current:

Current measured at V_{R} .



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

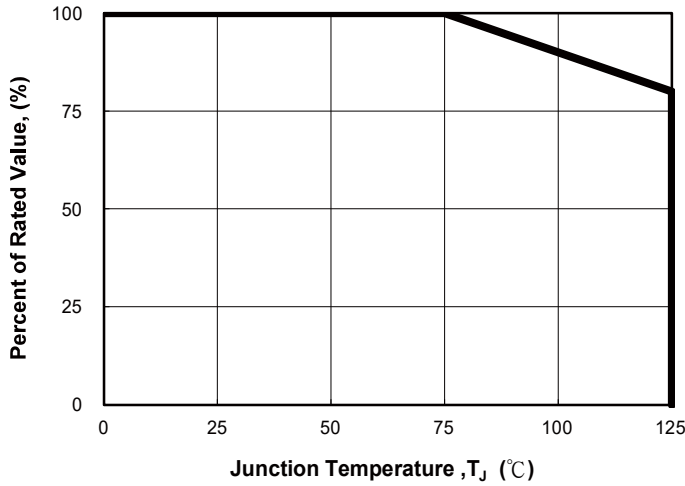


Fig. 1 - Pulse Derating Curve

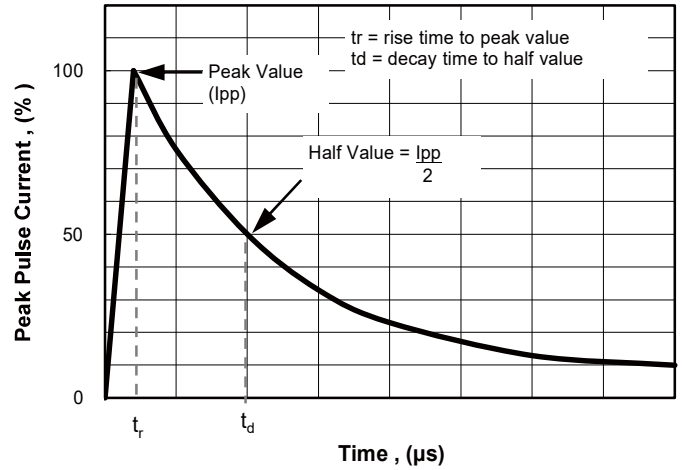


Fig. 2 - Pulse Waveform

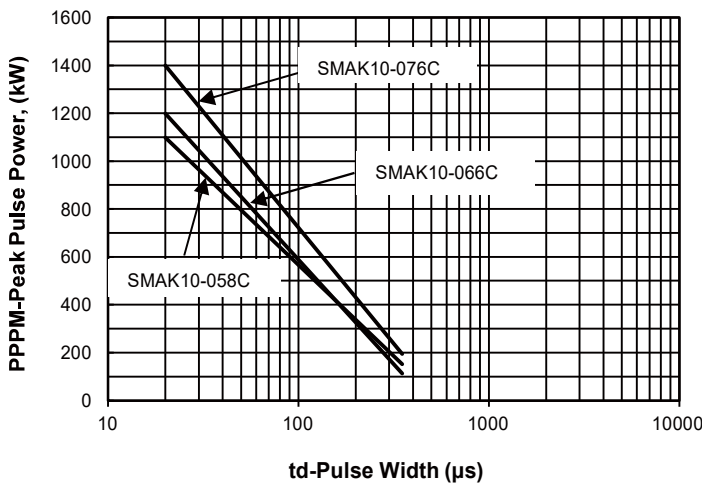
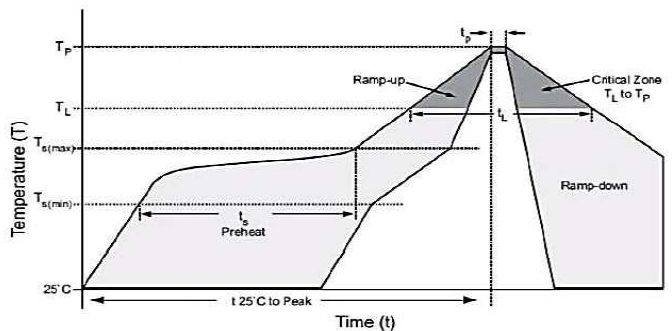


Fig. 3 - Typical Peak Pulse Power Rating Curve

Soldering Parameters

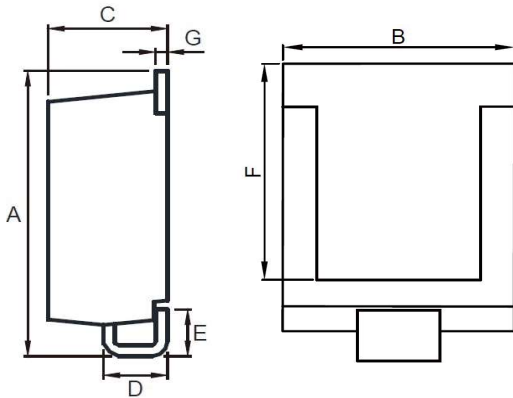
IR-Reflow Condition			
Pre Heat	Temp. min	150	°C
	Temp. max	200	°C
	Time(min to max)	60-120	sec
Ramp up rate (150-200°C)		<3	°C/sec
Reflow	Liquidus Temp.	>217	°C
	Peak Temp.	245	°C
	Time(Liq. to Peak)	60-150	sec
Ramp up rate (220-200°C)		<3	°C/sec
Time within 5°C of actual peak temp.		20-40	sec
Ramp down Rate		<6	°C/sec
Time(25°C to Peak temp.)		<8	min

Note: Don't exceed 245°C

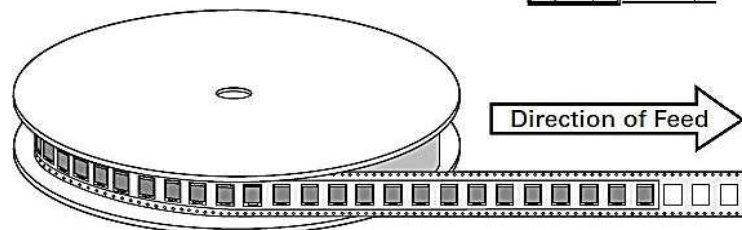
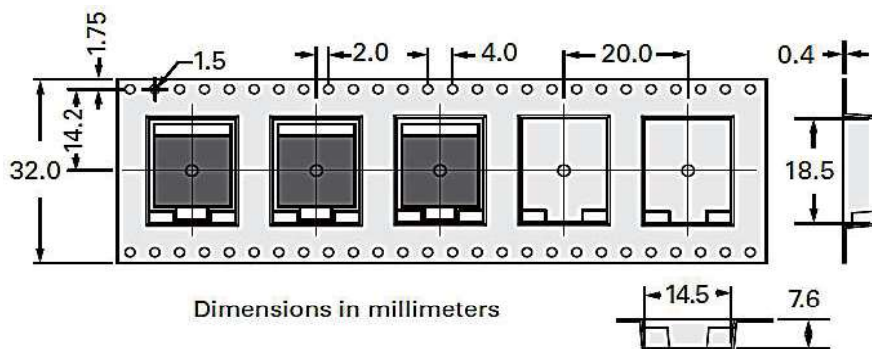
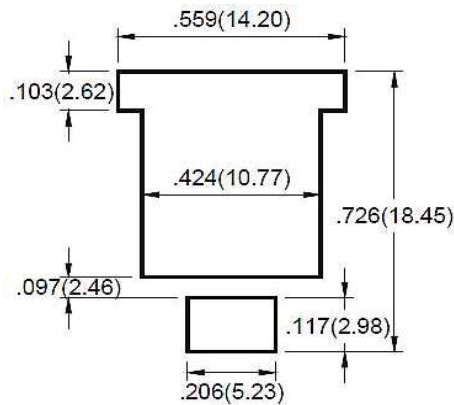




Dimensions



Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.701	0.737	17.80	18.72
B	0.529	0.594	13.43	15.29
C	0.268	0.291	6.80	7.40
D	0.138	0.167	3.51	4.25
E	0.087	0.129	2.20	3.27
F	0.500	0.533	12.70	13.55
G	0.023	0.039	0.60	1.00



Part No.	Package Type	Reel Size	Qty
SMAK10 Series	SMTO-218	13"	0.4 Kpcs