

250 WATT TVS COMPONENT



DESCRIPTION

The PAM21SC790501H is a transient voltage suppressor array designed to protect automotive applications. This device is available in a unidirectional configuration with a working voltage of 5.0V and a minimum breakdown voltage of 6.0V. The PAM21SC790501H is rated at 250W peak pulse power (8/20 μ s), which is sufficient protection for tertiary type lightning threats at key interface locations.

The PAM21SC790501H is ideally suited to protect data I/O ports against ESD and EFT. This device meets the requirements of IEC 61000-2 and IEC 61000-4-4. Packaged in a SC-79 configuration, this device can be substituted for similar 0803 outlines.

FEATURES

- **AEC-Q101 Qualified**
- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- 250 Watts Peak Pulse Power per Line (tp = 8/20 μ s)
- Cable Discharge Event (CDE) Protection
- Replacement for MLV (0803)
- One Unidirectional Line of Protection
- Unidirectional Configuration
- RoHS Compliant
- REACH Compliant

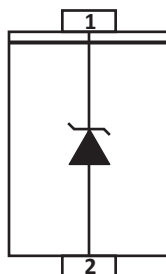
APPLICATIONS

- Automotive Applications

MECHANICAL CHARACTERISTICS

- Molded JEDEC SC-79 Package
- Approximate Weight: 2 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- 8mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

PIN CONFIGURATION



TYPICAL DEVICE CHARACTERISTICS
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P_{PP}	250	Watts
Peak Pulse Current (tp = 8/20μs)	I_{PP}	16	Amps
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Soldering Temperature for 10 seconds	T_L	265	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	TYPICAL FORWARD VOLTAGE @ 100mA V_F VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_P = 5A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_P = 16A$ V_C VOLTS	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	TYPICAL CAPACITANCE @ 0V, 1MHz C pF
PAM21SC790501H	U5	5.0	6.0	0.8	9.8	12.5	5	120

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

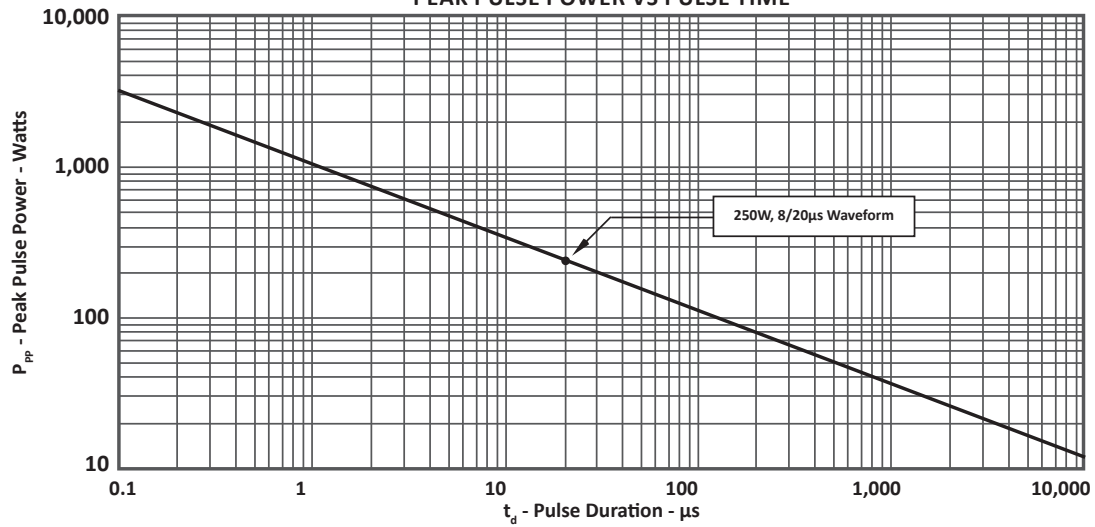
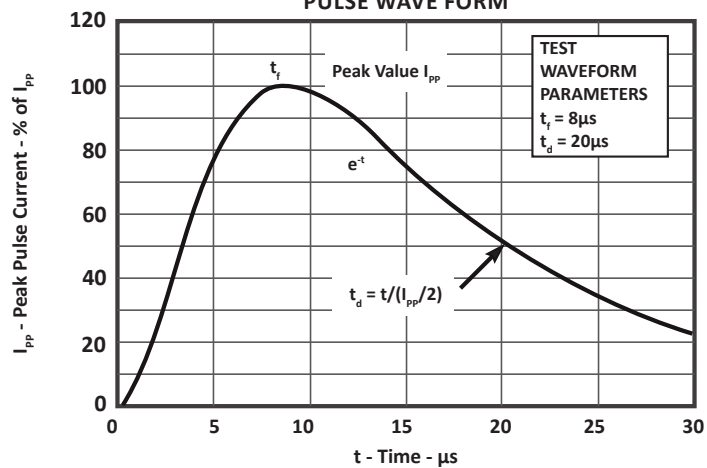


FIGURE 2
PULSE WAVE FORM



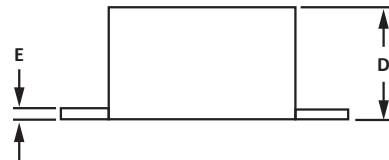
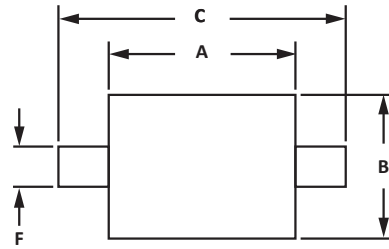
SC-79 PACKAGE INFORMATION

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.049
B	0.70	0.90	0.028	0.035
C	1.50	1.70	0.059	0.066
D	0.50	0.70	0.020	0.028
E	0.08	0.20	0.003	0.008
F	0.30 BSE		0.012 BSE	

NOTES

1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.

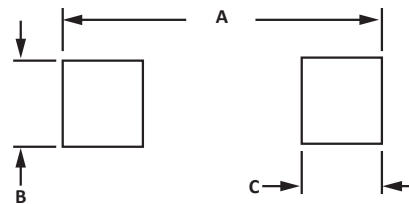


PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.85	2.03	0.070	0.080
B	0.38	0.64	0.015	0.025
C	0.25	0.51	0.010	0.020

NOTES

1. Controlling dimension: millimeters



COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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