

CAN BUS ESD PROTECTION DIODE**DESCRIPTION**

The PAM12VCAN is designed to protect Controller Area Network (CAN) bus lines and other automotive and industrial applications from the damaging effects of Electrostatic Discharge (ESD) and other transients. This device is available in a SOT-23 package configuration and meets IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

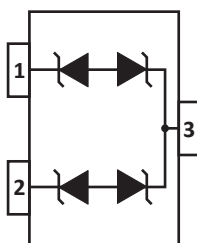
- **AEC-Q101 Qualified**
- Compatible with IEC 61000-4-2 (ESD): Air $\pm 30\text{kV}$, Contact $\pm 30\text{kV}$
- Compatible with IEC61000-4-4 (EFT): 12A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 4A, 8/20 μs
- 350 Watts Peak Pulse Power per Line(tp = 8/20 μs)
- Two Lines of Protection
- ESD Protection > 25 kilovolts
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- CAN Bus Protection
- Electronic Control Units
- ADAS Control Units
- Body Control Units

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOT-23 Package
- Approximate Weight: 8 milligrams
- Lead-Free Finish
- Solder Reflow Temperature: 260°C
- Flammability Rating UL 94V-0
- 8mm Tape and Reel per EIA Standard 481

PIN CONFIGURATION

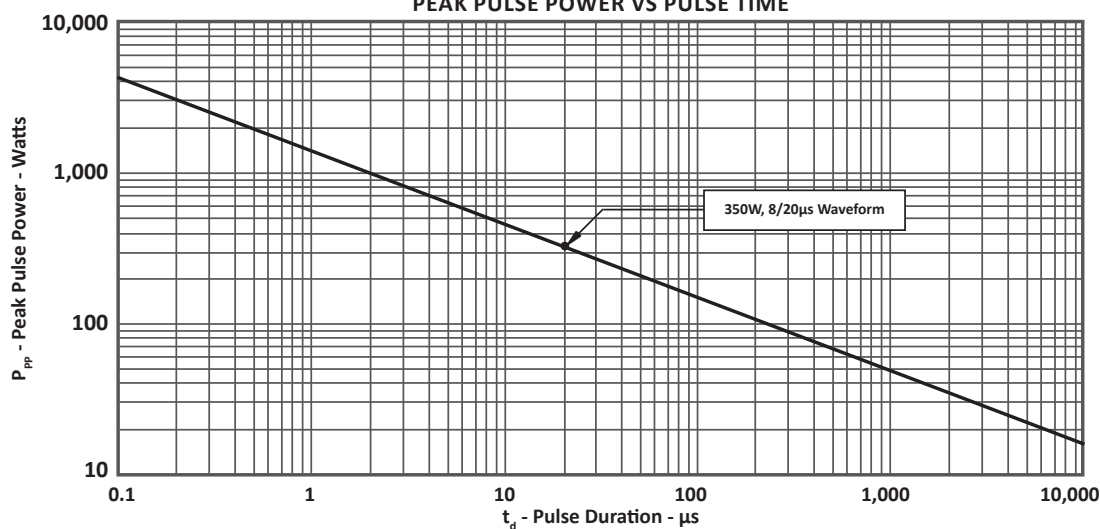
TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

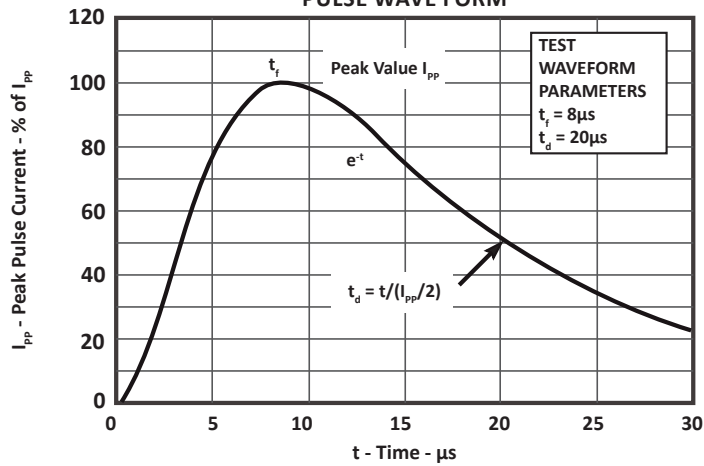
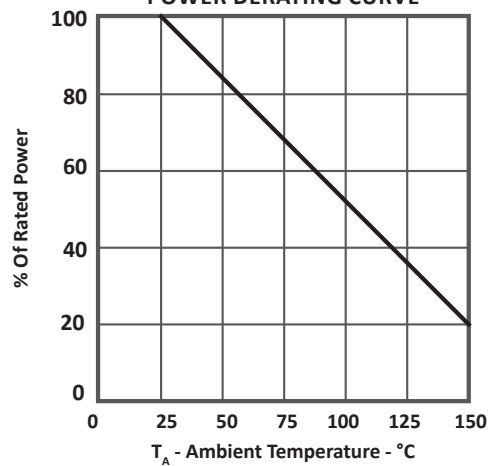
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1	P_{PP}	350	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Current - $8/20\mu s$	I_{PP}	12	Amps

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 5mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_p = 1A$ V_c VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_p = 12A$ V_c VOLTS	MAXIMUM LEAKAGE CURRENT ($T_j = 25^\circ C$) @ V_{WM} I_D μA	TYPICAL OFF-STATE CAPACITANCE @ 0Vdc, 1MHz C pF
PAM12VCAN	AB2	12	13.3	19	25	1	30

 FIGURE 1
 PEAK PULSE POWER VS PULSE TIME


TYPICAL DEVICE CHARACTERISTICS

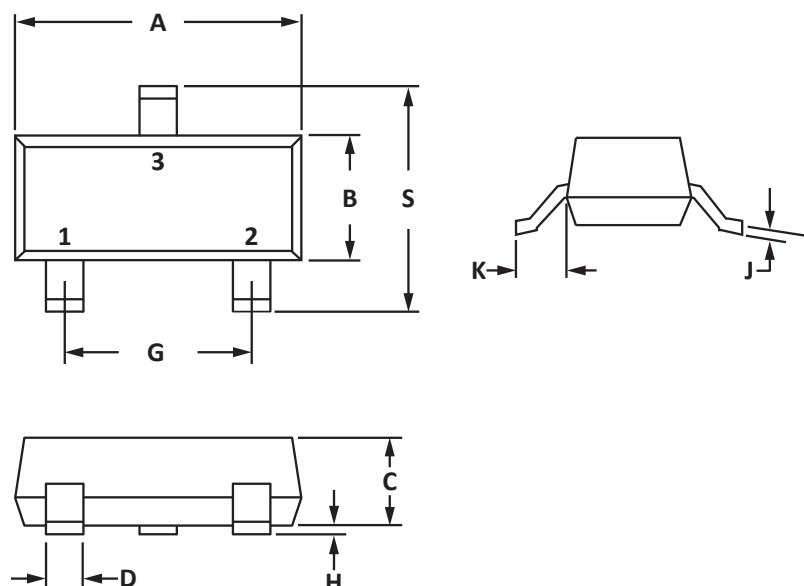
FIGURE 2
PULSE WAVE FORM

FIGURE 3
POWER DERATING CURVE


SOT-23 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.110	0.118
B	1.20	1.40	0.047	0.055
C	0.90	1.01	0.035	0.039
D	0.30	0.50	0.012	0.020
G	1.80	2.00	0.071	0.079
H	0.00	0.14	0.00	0.006
J	0.07	0.15	0.003	0.006
K	0.55 TYP		0.022 TYP	
S	2.25	2.55	0.089	0.100

NOTES

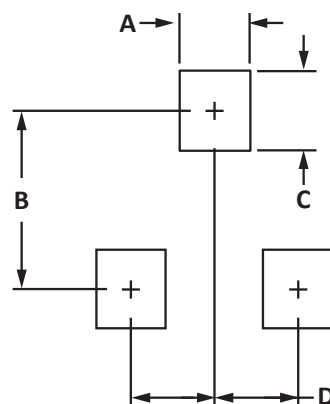
1. Controlling dimension: inches.
2. Dimensions are exclusive of mold flash and metal burrs.



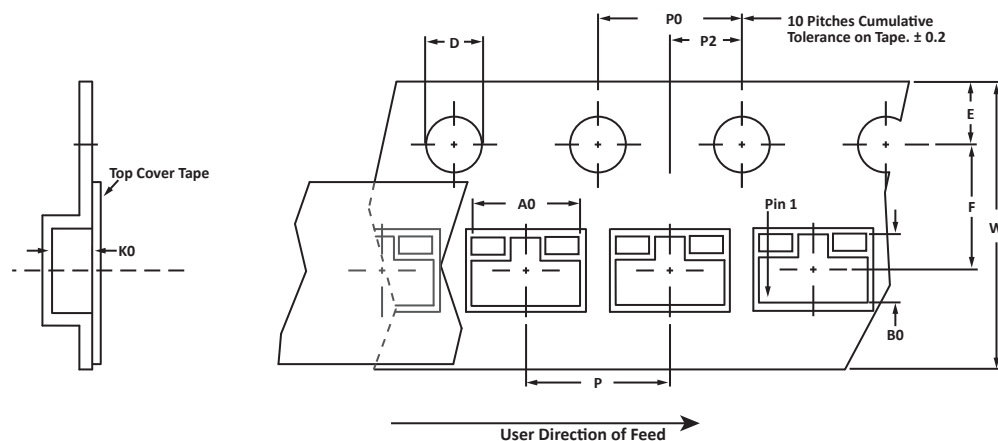
PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

NOTES

1. Controlling dimension: inches.



TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P
178mm (7")	8mm	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10

NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Marking on Part - marking code (see page 2).

ORDERING INFORMATION

BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM12VCAN	n/a	-T73	3000	7"	n/a

This device is only available in a Lead-Free configuration.

COMPANY INFORMATION

COMPANY PROFILE

In business more than 30 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection that include Transient Voltage Suppressor (TVS) Arrays, Steering Diode Array Hybrids, High-power Components and Modules, as well as Steering Diodes, EMI Filter/TVS Arrays and Thyristor Surge Suppressors. These components deliver circuit protection in electronic systems from numerous overvoltage events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices is an ISO 9001 certified company.

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