PROTEK DEVICES
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PDTVS58CA & PDTVS76CA

HIGH CURRENT TVS DIODES

DESCRIPTION

The PDTVSxxCA Series of high current bidirectional TVS diodes are designed for use in high powered DC bus clamping applications. These devices offer bidirectional port protection and are available in 58 and 76 Volts. The PDTVSxxCA Series are IEC 61000-4-5 complaint.

APPLICATIONS

- High Power DC Bus

FEATURES

- Compatible with IEC 61000-4-5
- 3kA, 8/20µs Surge Capability
- Low Clamping Voltage Under Surge
- Bidirectional
- Surface Mount Package
- RoHS Complaint

MECHANICAL CHARACTERISTICS

- Epoxy Encapsulated Device
- Flammability Rating UL 94V-0
- Marking: Logo, Date Code & Part Number

Bidirectional

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Junction Temperature	T_J	-55 to 125	°C
Storage Temperature	T_S	-55 to 150	°C
Peak Current Rating per 8/20µs IEC 61000-4-5	I_{PPM}	3	kA

## TYPICAL DEVICE CHARACTERISTICS

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER	REPETITIVE STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE $V_{(BR)}$ @ 10mA VOLTS	MAXIMUM STANDBY CURRENT I_D @ V_{WM} µA	MAXIMUM CLAMPING VOLTAGE (Note 1) @ I_{PP} = 3kA V_C VOLTS	TEMPERATURE COEFFICIENT OF $V_{(BR)}$ $qV_{(BR)}$ mV/°C	TYPICAL CAPACITANCE @1V, 10kHz C nF
PDTVS58CA	58.0	64.0	10	110	0.1	2.3
PDTVS76CA	76.0	85.0	10	140	0.1	1.7

NOTE
1. V_C measured at the time which is coninicident with the peak surge current.

FIGURE 1
PULSE WAVE FORM

TEST WAVEFORM PARAMETERS
t_f = 8µs
t_d = 20µs

t_f Peak Value I_{PP}

e^{-t}

$t_d = t/(I_{PP}/2)$

I_{PP} - Peak Pulse Current - % of I_{PP}

t - Time - µs
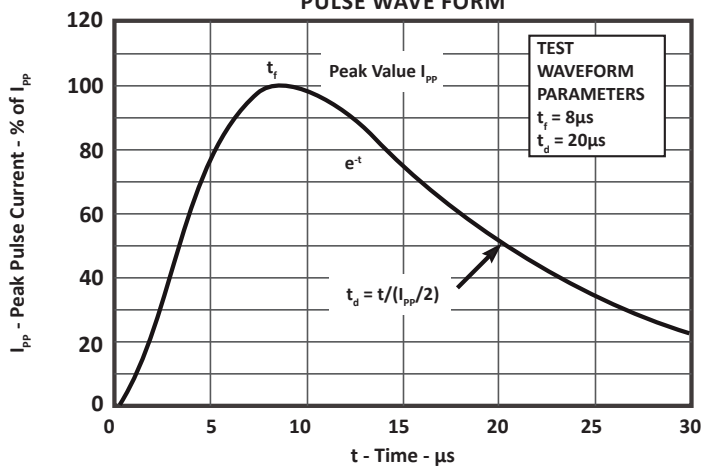
FIGURE 2
POWER DERATING CURVE

% Of Rated Power

T_A - Ambient Temperature - °C

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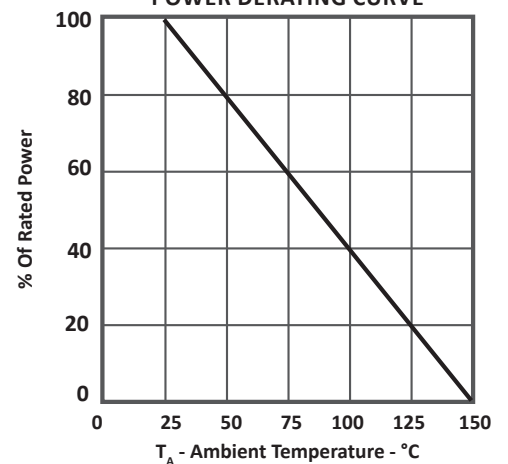
TYPICAL DEVICE CHARACTERISTICS

FIGURE 3
V-I CHARACTERISTIC
CURRENT I
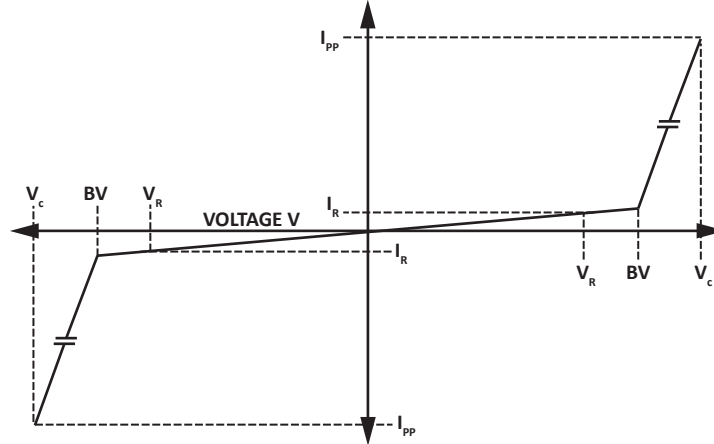
FIGURE 4
TYPICAL V$_{BR}$ VS JUNCTION TEMPERATURE

Percent of V$_{BR}$ Clamping

25°C

Junction Temperature (T$_J$) - °C

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PACKAGE INFORMATION

0.340 [8.64]

0.100 [2.54]

0.240 [6.10]

R0.010 [R0.25]

0.150 [3.81]

R0.010 [R0.25]

0.240 [6.10]

R0.010 [R0.25]

XXXX
YYWW

END VIEW

CATHODE MARKING BAND

TOP VIEW

0.304 [7.71]

SIDE VIEW
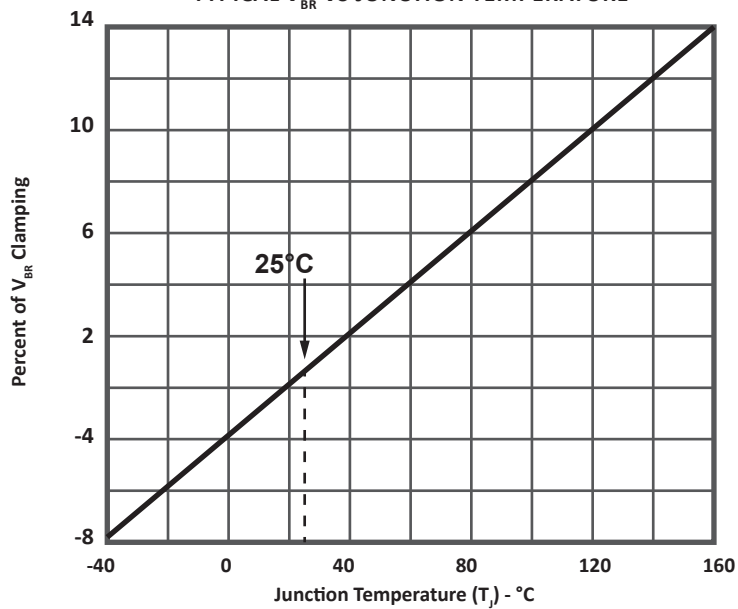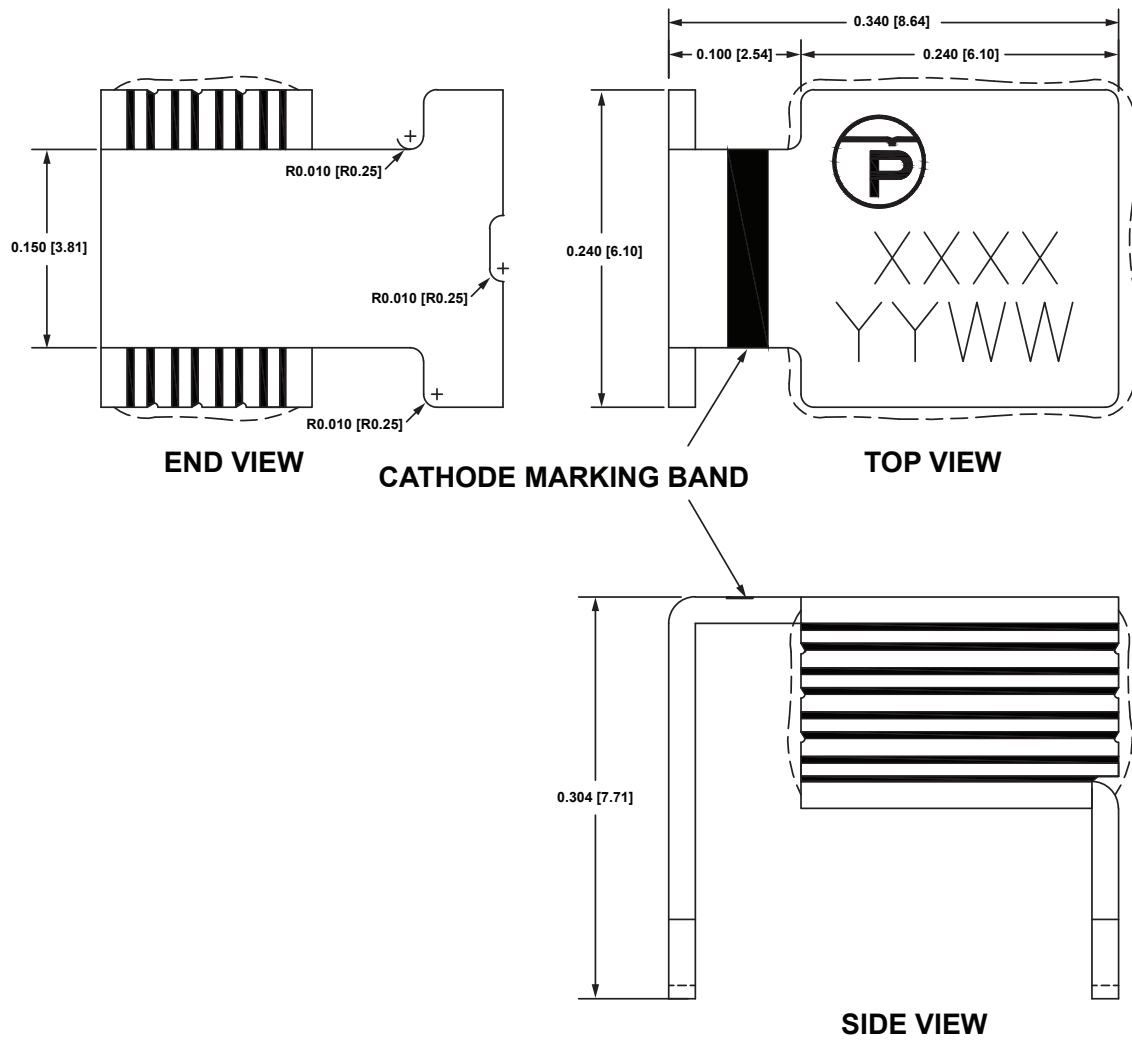
COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products.

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