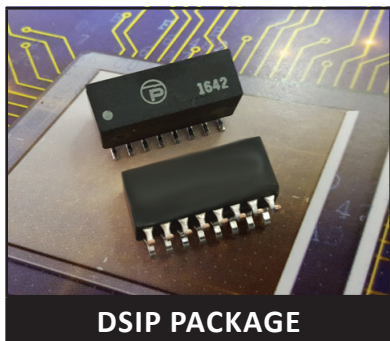


HIGH POWERED DSIP® TVS ARRAY



DSIP PACKAGE

DESCRIPTION

The SMDD3K Series are high powered TVS arrays available in a 16 pin Dual SIP package. These devices are designed to protect telecommunications equipment from the damaging effects of ESD, EFT and secondary transient threats.

The SMDD3K series has a peak pulse power rating of 3000 Watts for an 10/1000 μ s waveshape. These devices meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20 μ s, 95A - Level 4(Line-Gnd) & 48A, Level 4(Line-Line), 83A Level 2 (Power)
- 3000 Watts Peak Pulse Power per Line (tp = 10/1000 μ s)
- Unidirectional & Bidirectional Configurations
- ESD Protection > 25 kilovolts
- High Surge Capability

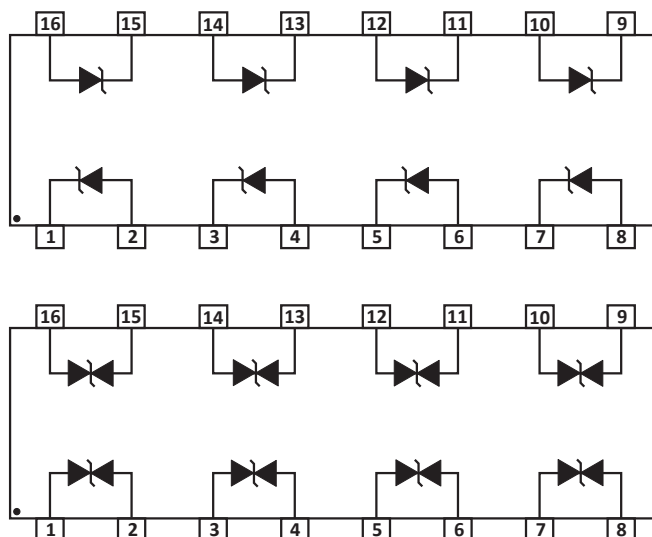
APPLICATIONS

- RS-232 & RS-423 Data Lines
- T1/E1 & T3/E3
- ATM Circuit Interfaces
- xDSL Interfaces
- Cable Modem Intra-Structure Protection
- V.34/V.90

MECHANICAL CHARACTERISTICS

- Molded 16 Pin Plastic DSIP® Package
- Approximate Weight: 2.5 grams
- Leads Hot Solder Dipped
- Solder Reflow Temperature:
Tin/Lead - Sn/Pb: 240-245°C
- Flammability Rating UL 94V-0
- MSL Level 1

PIN CONFIGURATIONS



TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

| PARAMETER | SYMBOL | VALUE | UNITS |
|--|-----------|------------|-------|
| Peak Pulse Power (tp = 10/1000μs) - See Figure 1 | P_{PP} | 3000 | Watts |
| Operating Temperature | T_L | -55 to 150 | °C |
| Storage Temperature | T_{STG} | -65 to 150 | °C |

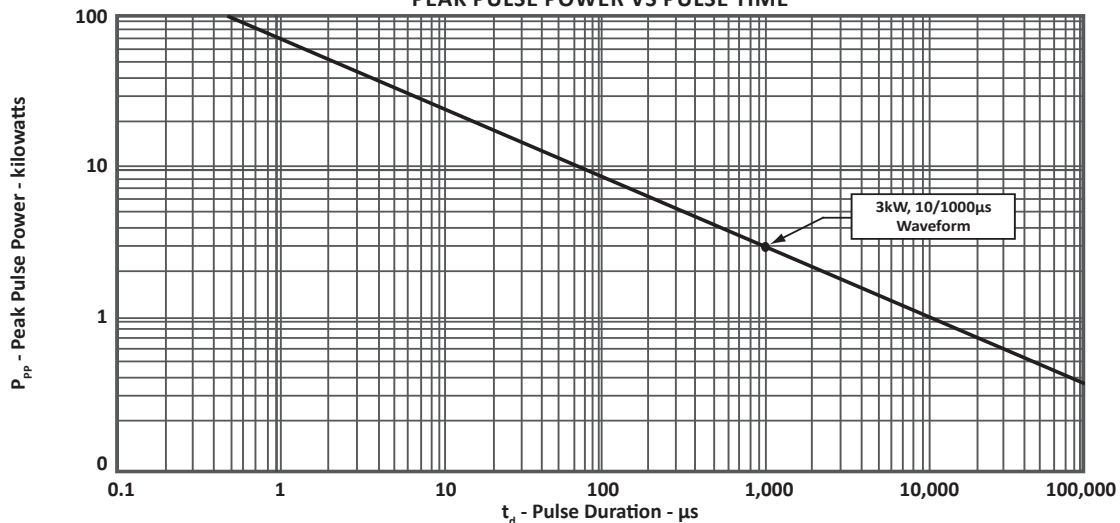
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

| PART NUMBER (Note 1) | D1-D8 BREAKDOWN VOLTAGE VOLTS @ $I_{(BR)}$ | $I_{(BR)}$ mA | MAXIMUM STANDBY CURRENT @ V_{WM} μA | REVERSE STAND-OFF VOLTAGE V_{WM} VOLTS | MAXIMUM CLAMPING VOLTAGE V_C @ I_{PP} | D1-D8 PEAK PULSE CURRENT |
|-------------------------|--|------------------|---|--|--|-----------------------------------|
| SMDD3K06CA | 6.67-7.37 | 10 | 1000 | 6.0 | 10.3 | 291.3 |
| SMDD3K09CA | 10.0-11.1 | 1 | 10 | 9.0 | 15.4 | 194.8 |
| SMDD3K12CA | 13.3-14.7 | 1 | 5 | 12.0 | 19.9 | 150.6 |
| SMDD3K18CA | 20.0-22.1 | 1 | 2 | 18.0 | 29.2 | 102.8 |
| SMDD3K30A | 33.3-36.8 | 1 | 2 | 30.0 | 48.4 | 62.0 |
| SMDD3K40A | 44.4-49.1 | 1 | 2 | 40.0 | 64.5 | 46.4 |

NOTES

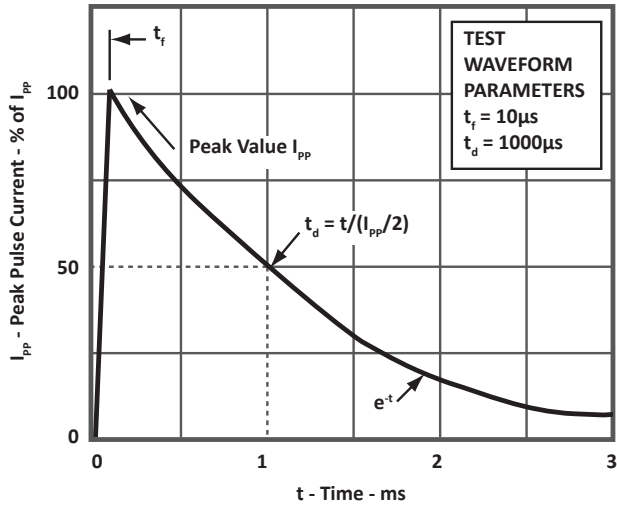
1. Part numbers with an additional "C" suffix are bidirectional, i.e., "DD3K06CA".

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

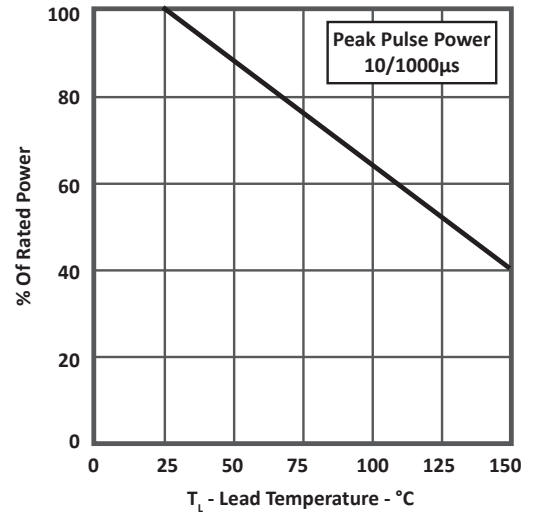


TYPICAL DEVICE CHARACTERISTICS

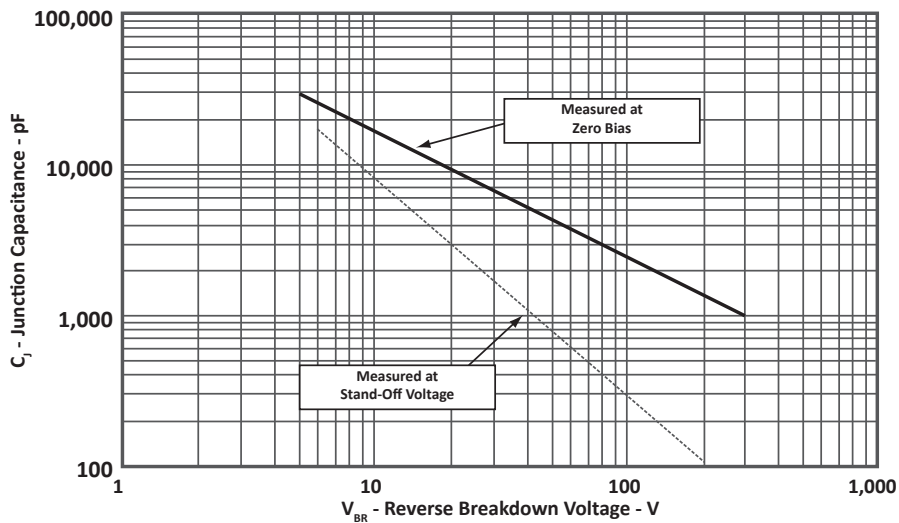
**FIGURE 2
PULSE WAVEFORM**



**FIGURE 3
POWER DERATING CURVE**



**FIGURE 4
TYPICAL JUNCTION CAPACITANCE VS BREAKDOWN VOLTAGE**

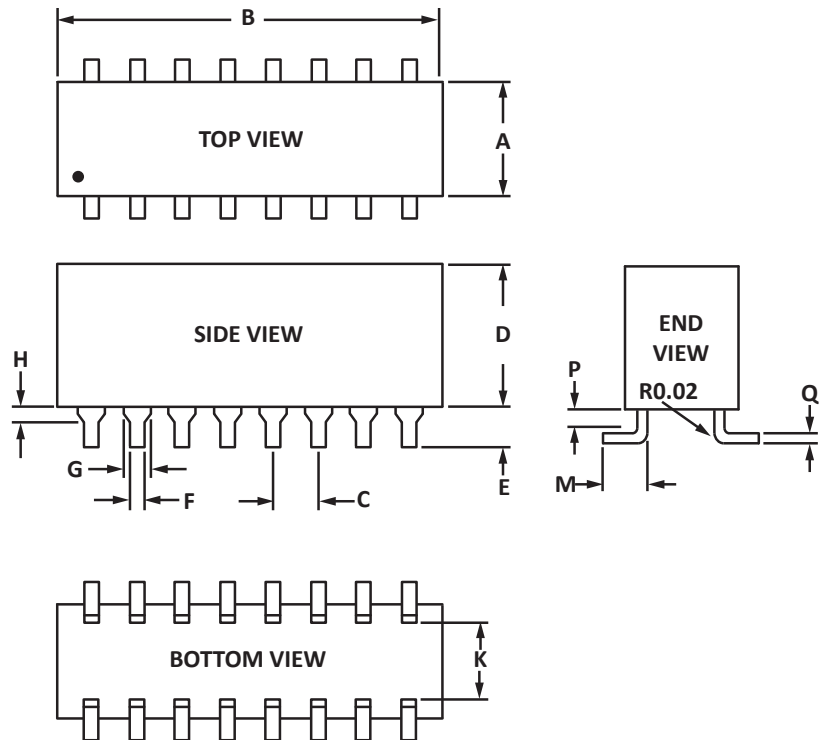


16 PIN DSIP PACKAGE INFORMATION

| OUTLINE DIMENSIONS | | |
|--------------------|-----------|-------|
| DIM | INCHES | |
| | MIN | MAX |
| A | 0.270 | 0.310 |
| B | 0.828 | 0.868 |
| C | 0.100 BSC | |
| D | 0.340 | 0.380 |
| E | 0.095 | 0.105 |
| F | 0.030 | 0.040 |
| G | 0.055 | 0.065 |
| H | 0.025 | 0.035 |
| K | 0.175 | 0.185 |
| M | 0.100 | 0.110 |
| P | 0.055 | 0.065 |
| Q | 0.015 | 0.025 |

NOTES

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



ORDERING INFORMATION

| BASE PART NUMBER (xx = Voltage) | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------------------------|-----------------|-------------|----------|-----------|----------|
| SMDD3KxxA | n/a | n/a | n/a | n/a | n/a |
| SMDD3KxxCA | n/a | n/a | n/a | n/a | n/a |

NOTES

- Marking on Part - logo, part number, date code and pin one defined by dot on top of the package.

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 high performance interface and linear products. They include analog switches; multiplexers; LED drivers; LED wafer die for ESD protection; audio control ICs; RF and related high frequency products.

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