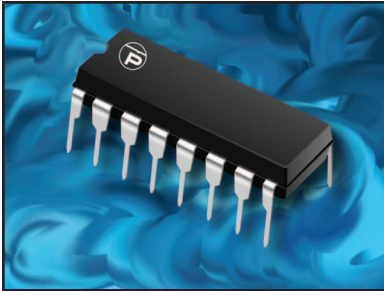


HIGH POWERED MULTI-LINE TVS ARRAY



16 PIN DIP PACKAGE

DESCRIPTION

The DA16 Series are high powered multi-line TVS arrays available in a 16 pin DIP package. This series is designed to protect monitoring and industrial equipment from the damaging effects of ESD, EFT and secondary transient threats.

The DA16 Series has a peak pulse power rating of 800 Watts for an 8/20 μ s waveshape. This 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): 24A, 8/20 μ s - Level 2(Line-Gnd) & Level 3(Line-Line)
- 800 Watts Peak Pulse Power per Line (tp = 8/20 μ s)
- Unidirectional & Bidirectional Configurations
- ESD Protection > 25 kilovolts
- Available in Multiple Voltages
- Protects 8 to 12 Lines
- RoHS Compliant
- REACH Compliant

APPLICATIONS

- Low Frequency I/O Ports
- RS-232 & RS-423 Data Lines
- Power Bus Lines
- Monitoring & Industrial Signal & Data Ports
- Microprocessor Based Equipment

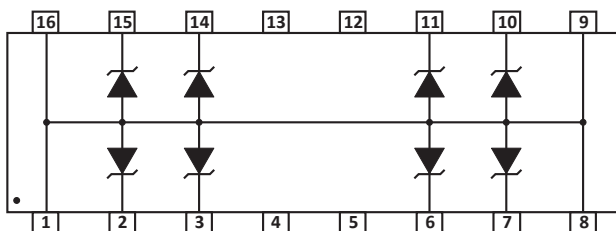
MECHANICAL CHARACTERISTICS

- Molded 16 Pin Dual-In-Line (DIP) Package
- Approximate Weight: 1.2 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

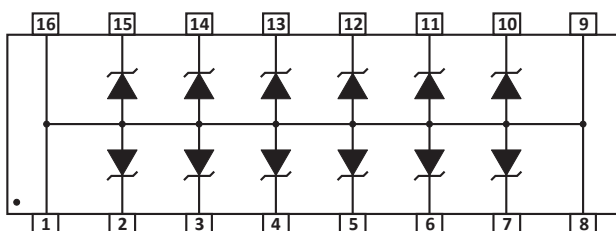
PIN CONFIGURATIONS

UNIDIRECTIONAL

DAxxN Series

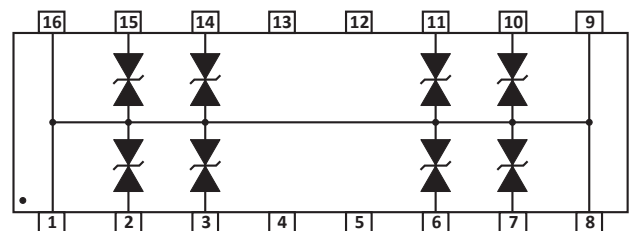


DAxxP Series

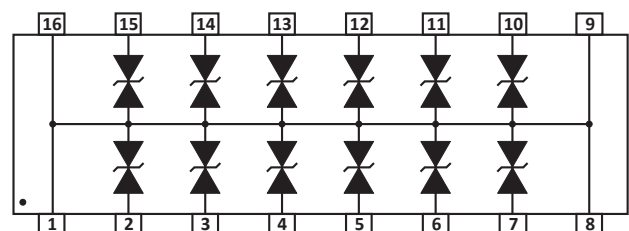


BIDIRECTIONAL

DAxxCN Series



DAxxCP Series



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} | 800 | Watts |
| Operating Temperature | T _L | -55 to 150 | °C |
| Storage Temperature | T _{STG} | -55 to 150 | °C |
| Forward Surge Rating | I _F | 10 | Amps |

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

| PART NUMBER (Note 1) | RATED STAND-OFF VOLTAGE V _{WM} VOLTS | MINIMUM BREAKDOWN VOLTAGE @1mA V _(BR) VOLTS | MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ IP = 10A V _C VOLTS | MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20μs V _C @ I _{PP} | MAXIMUM LEAKAGE CURRENT @V _{WM} I _D μA | TYPICAL CAPACITANCE @0V, 1MHz C pF |
|-------------------------|---|---|--|---|---|---|
| | | | | | | |
| DA05N | 5.0 | 6.0 | 12.5 | 24.6V @ 45.0A | 200 | 880 |
| DA05P | 5.0 | 6.0 | 12.5 | 24.6V @ 45.0A | 200 | 880 |
| DA05CN | 5.0 | 6.0 | 12.5 | 24.6V @ 45.0A | 200 | 500 |
| DA05CP | 5.0 | 6.0 | 12.5 | 24.6V @ 45.0A | 200 | 500 |
| DA12N | 12.0 | 13.3 | 26.0 | 32.9V @ 34.0A | 2 | 440 |
| DA12P | 12.0 | 13.3 | 26.0 | 32.9V @ 34.0A | 2 | 440 |
| DA12CN | 12.0 | 13.3 | 26.0 | 32.9V @ 34.0A | 2 | 385 |
| DA12CP | 12.0 | 13.3 | 26.0 | 32.9V @ 34.0A | 2 | 385 |
| DA15N | 15.0 | 16.7 | 33.0 | 37.7V @ 27.0A | 2 | 400 |
| DA15P | 15.0 | 16.7 | 33.0 | 37.7V @ 27.0A | 2 | 400 |
| DA15CN | 15.0 | 16.7 | 33.0 | 37.7V @ 27.0A | 2 | 300 |
| DA15CP | 15.0 | 16.7 | 33.0 | 37.7V @ 27.0A | 2 | 300 |
| DA24N | 24.0 | 26.7 | 52.1 | 53.0V @ 20.0A | 2 | 275 |
| DA24P | 24.0 | 26.7 | 52.1 | 53.0V @ 20.0A | 2 | 275 |
| DA24CN | 24.0 | 26.7 | 52.1 | 53.0V @ 20.0A | 2 | 200 |
| DA24CP | 24.0 | 26.7 | 52.1 | 53.0V @ 20.0A | 2 | 200 |

NOTES

1. The "C" suffix denotes a bidirectional device, such as DA05CN.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

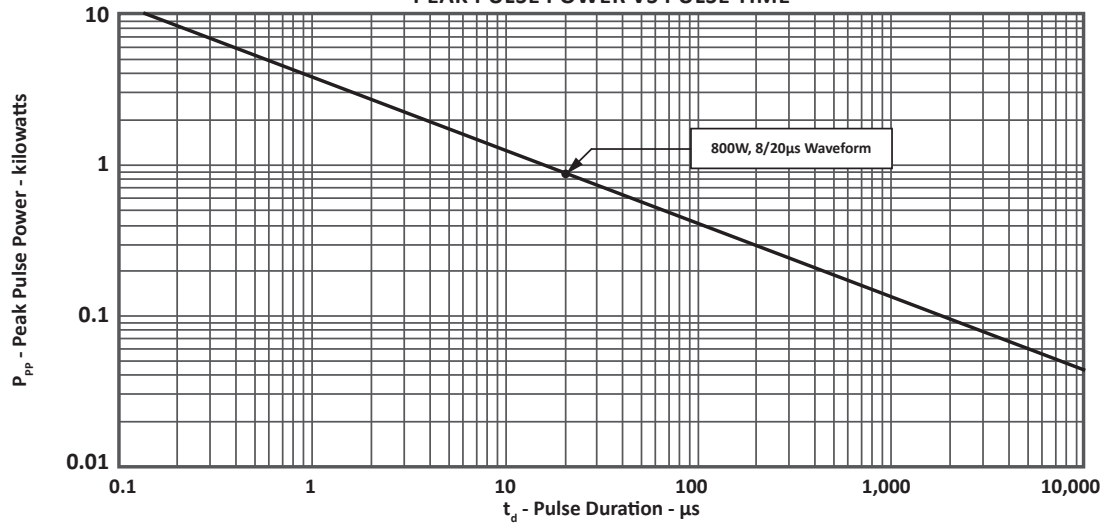


FIGURE 2
PULSE WAVE FORM

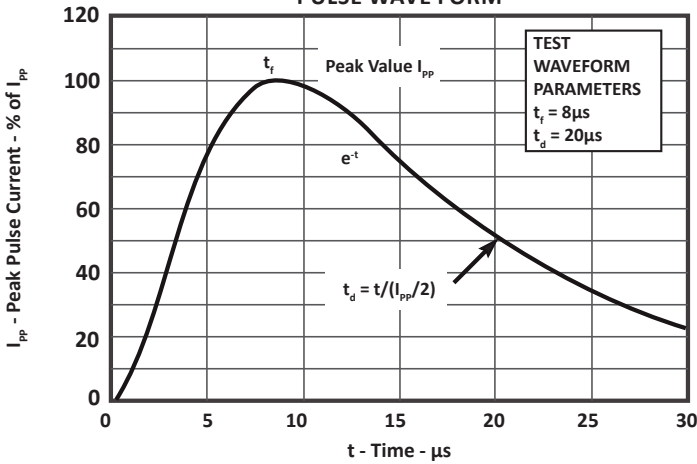
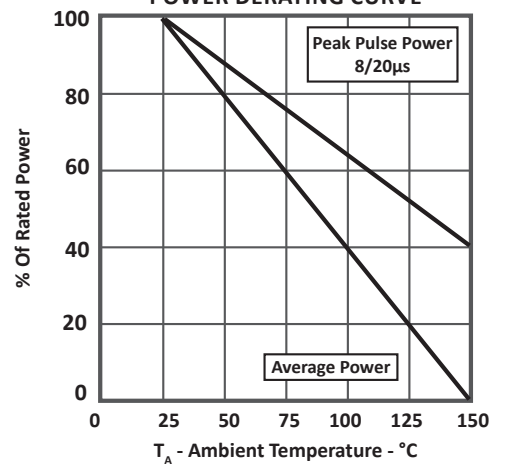


FIGURE 3
POWER DERATING CURVE



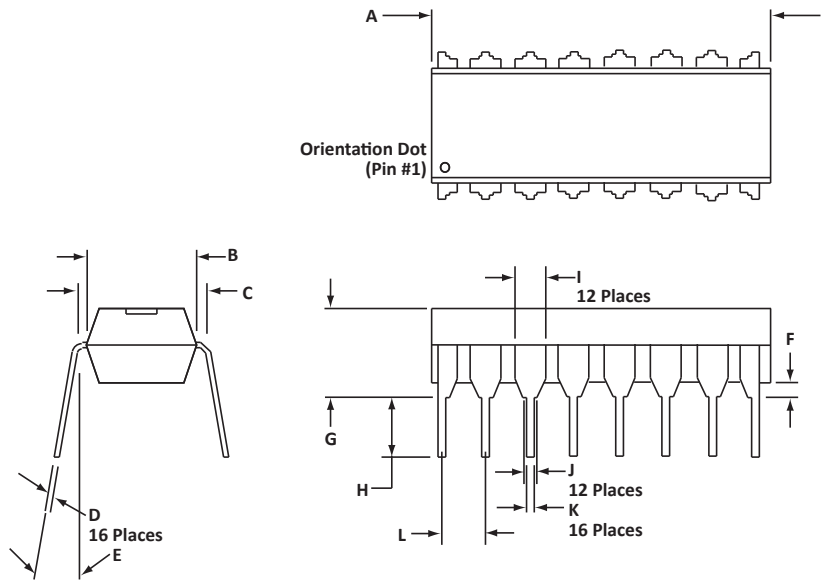
16 PIN DIP PACKAGE INFORMATION

OUTLINE DIMENSIONS

| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|-------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 18.80 | 19.55 | 0.740 | 0.770 |
| B | 6.35 | 6.85 | 0.250 | 0.270 |
| C | 7.50 | 7.74 | 0.295 | 0.305 |
| D | 0.21 | 0.38 | 0.008 | 0.015 |
| E | 0° | 10° | 0° | 10° |
| F | 0.51 | 1.01 | 0.020 | 0.040 |
| G | 3.69 | 4.44 | 0.145 | 0.175 |
| H | 2.80 | 3.30 | 0.110 | 0.130 |
| I | 1.02 | 1.77 | 0.040 | 0.070 |
| J | 0.76 | 1.52 | 0.030 | 0.060 |
| K | 0.39 | 0.53 | 0.015 | 0.021 |
| L | 2.54 | 2.54 | 0.100 | 0.100 |

NOTES

- Dimensions are exclusive of mold flash and metal burrs.
- Dimension "L" is between centers.



ORDERING INFORMATION

| BASE PART NUMBER (xx = Voltage) | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------------------------|-----------------|-------------|----------|-----------|----------|
| DAxxN | -LF | n/a | n/a | n/a | 25 |
| DAxxP | -LF | n/a | n/a | n/a | 25 |
| DAxxCN | -LF | n/a | n/a | n/a | 25 |
| DAxxCP | -LF | n/a | n/a | n/a | 25 |

NOTES

- Marking on Part - logo, part number, date code and pin one defined by dot on top of package.
- This series is only available in a lead-free configuration.

Package outline per document number 06003.R3 10/11.

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.

CONTACT US

Corporate Headquarters

2929 South Fair Lane
Tempe, Arizona 85282
USA

By Telephone

General: 602-431-8101
Sales: & Marketing: 602-414-5109
Customer Service: 602-414-5114
Product Technical Support: 602-414-5107

By Fax

General: 602-431-2288

By E-mail:

Sales: sales@protekdevices.com
Customer Service: service@protekdevices.com
Technical Support: support@protekdevices.com

ProTek Devices (Asia Pacific) Pte. Ltd.

8 Ubi Road 2, #06-19
Zervex
Singapore - 408538
Tel: +65-67488312
Fax: +65-67488313

Web

www.protekdevices.com

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