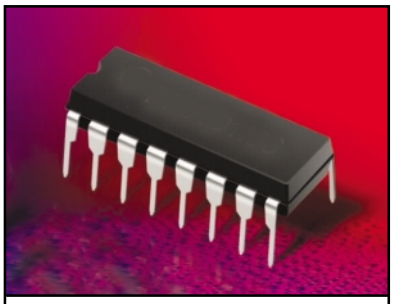
PROTEK DEVICES
Only One Name Means ProTek'Tion™

# DA05N thru DA24CP

## STANDARD CAPACITANCE TVS ARRAY

## APPLICATIONS



16 PIN DIP

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

## IEC COMPATIBILITY (EN61000-4)

- ✔ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✔ 61000-4-4 (EFT): 40A - 5/50ns
- ✔ 61000-4-5 (Surge): 24A, 8/20µs Level 2 (Line-Ground) & Level 3 (Line-Line)

## FEATURES

- ✔ 800 Watts Peak Pulse Power per Line (tp=8/20µs)
- ✔ Unidirectional & Bidirectional Configuration
- ✔ ESD Protection > 40 kilovolts
- ✔ Available in 5V, 12V, 15V & 24V
- ✔ Standard Dual-In-Line Package
- ✔ Protects 8 to 12 Lines

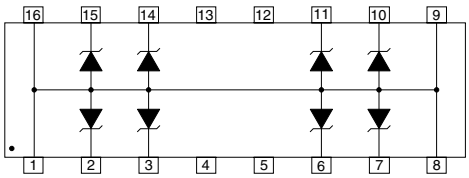
## MECHANICAL CHARACTERISTICS

- ✔ Molded 16 Pin Dual-In-Line (DIP) Package
- ✔ Weight 1.2 grams (Approximate)
- ✔ Flammability rating UL 94V-0
- ✔ Packaging: 25 Pieces Per Tube
- ✔ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package

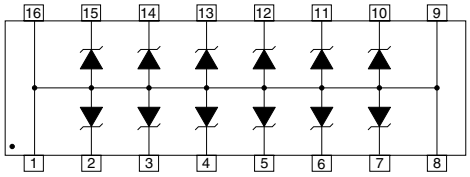
## PIN CONFIGURATIONS

**UNIDIRECTIONAL**

DAxxN Series

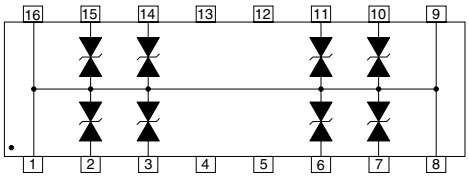



DAxxP Series

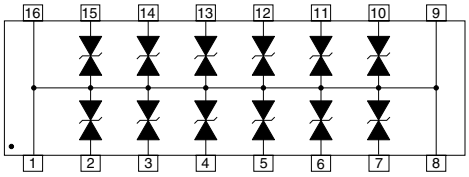



**BIDIRECTIONAL**

DAxxCN Series




DAxxCP Series



# DEVICE CHARACTERISTICS

| MAXIMUM RATINGS @ 25°C Unless Otherwise Specified | | | |
|---|---|---|---|
| PARAMETER | SYMBOL | VALUE | UNITS |
| Peak Pulse Power ($t_p$ = 8/20µs) - See Figure 1 | $P_{PP}$ | 800 | Watts |
| Operating Temperature | $T_J$ | -55°C to 150°C | °C |
| Storage Temperature | $T_{STG}$ | -55°C to 150°C | °C |
| Forward Surge Rating (See Note 1) | $I_F$ | 10 | Amps |

| ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified | | | | | | |
|---|---|---|---|---|---|---|
| PART NUMBER (See Note 1) | RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS | MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS | MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P$ = 10A $V_C$ VOLTS | MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @8/20µs $V_C$ @ $I_{PP}$ | MAXIMUM LEAKAGE CURRENT @$V_{WM}$ $I_D$ µA | TYPICAL CAPACITANCE @0V, 1 MHz $C_J$ pF |
| DA05N | 5.0 | 6.0 | 12.5 | 24.6V @ 45A | 200 | 880 |
| DA12N | 12.0 | 13.3 | 26.0 | 32.9V @ 34A | 2 | 440 |
| DA15N | 15.0 | 16.7 | 33.0 | 37.7V @ 27A | 2 | 400 |
| DA24N | 24.0 | 26.7 | 52.1 | 48.5V @ 22A | 2 | 275 |
| DA05P | 5.0 | 6.0 | 12.5 | 24.6V @ 45A | 200 | 880 |
| DA12P | 12.0 | 13.3 | 26.0 | 32.9V @ 34A | 2 | 440 |
| DA15P | 15.0 | 16.7 | 33.0 | 37.7V @ 27A | 2 | 400 |
| DA24P | 24.0 | 26.7 | 52.1 | 48.5V @ 22A | 2 | 275 |
| DA05CN | 5.0 | 6.0 | 12.5 | 24.6V @ 45A | 200 | 500 |
| DA12CN | 12.0 | 13.3 | 26.0 | 32.9V @ 34A | 2 | 385 |
| DA15CN | 15.0 | 16.7 | 33.0 | 37.7V @ 27A | 2 | 300 |
| DA24CN | 24.0 | 26.7 | 52.1 | 48.5V @ 22A | 2 | 200 |
| DA05CP | 5.0 | 6.0 | 12.5 | 24.6V @ 45A | 200 | 500 |
| DA12CP | 12.0 | 13.3 | 26.0 | 32.9V @ 34A | 2 | 385 |
| DA15CP | 15.0 | 16.7 | 33.0 | 37.7V @ 27A | 2 | 300 |
| DA24CP | 24.0 | 26.7 | 52.1 | 48.5V @ 22A | 2 | 200 |

**Note 1:** The “C” suffix specifies a bidirectional device, such as DA05CN or DA12CP.

## GRAPHS

**FIGURE 1**
**PEAK PULSE POWER VS PULSE TIME**

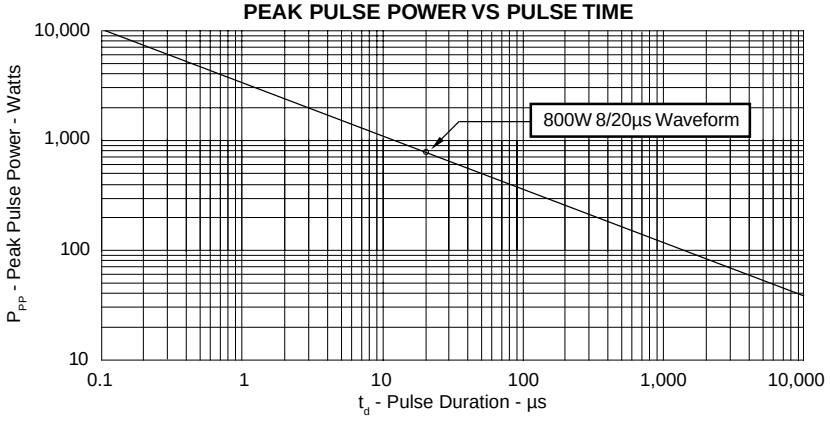



**FIGURE 2**
**PULSE WAVE FORM**

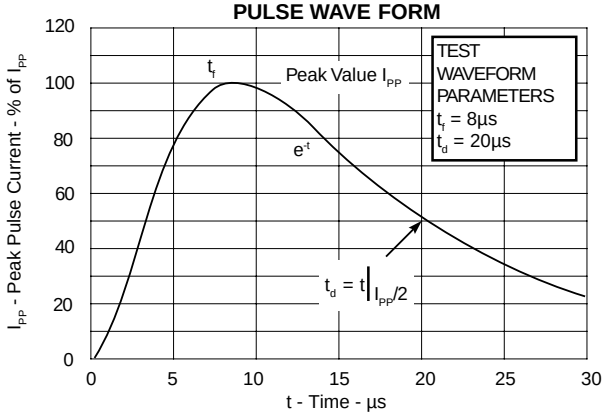
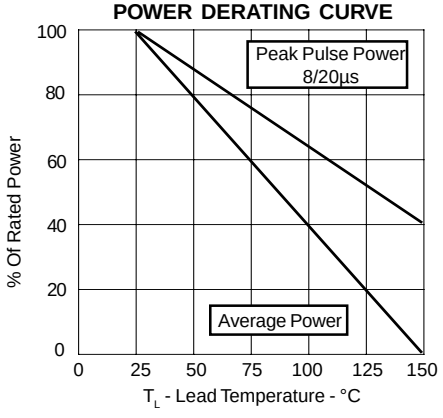
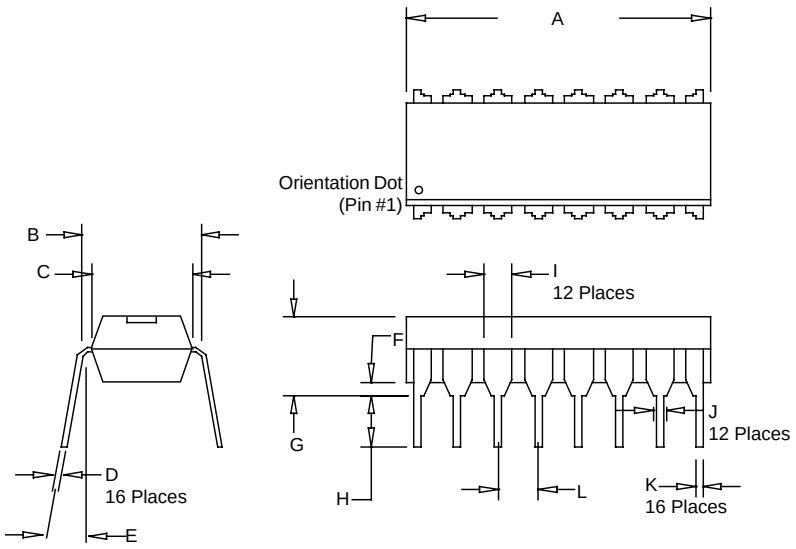



**FIGURE 3**
**POWER DERATING CURVE**

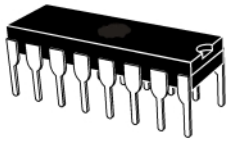


# PACKAGE OUTLINE & DIMENSIONS

## PACKAGE OUTLINE




## 16 PIN DIP



## DIMENSIONS

| DIM | MILLIMETERS | | INCHES | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | - | 19.8 | - | 0.780 |
| B | 6.10 | 6.60 | 0.240 | 0.260 |
| C | 7.37 | 7.87 | 0.290 | 0.310 |
| D | 0.25 | 0.50 | 0.010 | 0.020 |
| E | 0° | 10° | 0° | 10° |
| F | 0.51 | - | 0.020 | - |
| G | - | 5.08 | - | 0.200 |
| H | 3.17 | - | 0.125 | - |
| I | - | 1.78 | - | 0.070 |
| J | 0.84 TYP | 0.84 TYP | 0.033 TYP | 0.033 TYP |
| K | 0.38 | 0.53 | 0.015 | 0.021 |
| L | 2.54 TYP | 2.54 TYP | 0.100 TYP | 0.100 TYP |

**NOTES:**

1. Dimensions are exclusive of mold flash and metal burrs.

**BULK ORDERING NOMENCLATURE:**

1. No Suffix = Product Shipped in Tubes of 25 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06003**

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