

## APPLICATIONS

- ✓ 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)

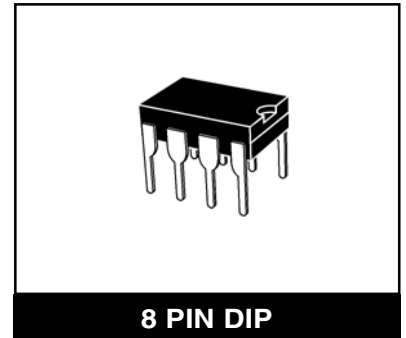
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s Level 2 (Line-Ground) & Level 3 (Line-Line)

## FEATURES

- ✓ 800 Watts Peak Pulse Power per Line (tp=8/20 $\mu$ s)
- ✓ Unidirectional & Bidirectional Configuration
- ✓ ESD Protection > 40 kilovolts
- ✓ Available in 5V, 12V, 15V & 24V
- ✓ Standard Dual-In-Line Package
- ✓ Protects 4 to 6 Lines
- ✓ RoHS Compliant

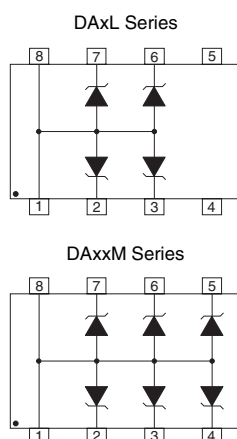
## MECHANICAL CHARACTERISTICS

- ✓ Molded 8 Pin Dual-In-Line (DIP) Package
- ✓ Weight 0.55 grams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating (Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ Packaging: 50 Pieces Per Tube
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package

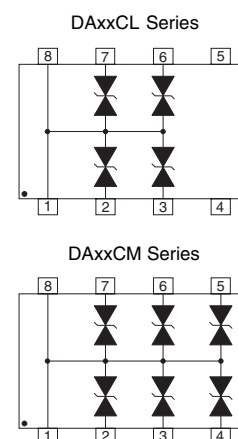


## PIN CONFIGURATIONS

### UNIDIRECTIONAL



### BIDIRECTIONAL



# DA05L thru DA24CM

## 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	$P_{PP}$	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 (See Note 1)	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	MAXIMUM CAPACITANCE
	$V_{WM}$ VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ $I_p = 10A$ $V_c$ VOLTS	@ 8/20 $\mu s$ $V_c @ I_{PP}$	@ $V_{WM}$ $I_b$ $\mu A$	0V @ 1 MHz C pF
DA05L	5.0	6.0	12.5	24.6V @ 45A	200	880
DA12L	12.0	13.3	26.0	32.9V @ 34A	2	440
DA15L	15.0	16.7	33.0	37.7V @ 27A	2	400
DA24L	24.0	26.7	52.1	53.0V @ 20A	2	275
DA05M	5.0	6.0	12.5	24.6V @ 45A	200	880
DA12M	12.0	13.3	26.0	32.9V @ 34A	2	440
DA15M	15.0	16.7	33.0	37.7V @ 27A	2	400
DA24M	24.0	26.7	52.1	53.0V @ 20A	2	275
DA05CL	5.0	6.0	12.5	24.6V @ 45A	200	500
DA12CL	12.0	13.3	26.0	32.9V @ 34A	2	385
DA15CL	15.0	16.7	33.0	37.7V @ 27A	2	300
DA24CL	24.0	26.7	52.1	53.0V @ 20A	2	200
DA05CM	5.0	6.0	12.5	24.6V @ 45A	200	500
DA12CM	12.0	13.3	26.0	32.9V @ 34A	2	385
DA15CM	15.0	16.7	33.0	37.7V @ 27A	2	300
DA24CM	24.0	26.7	52.1	53.0V @ 20A	2	200

**Note 1:** The "C" suffix specifies a bidirectional device, such as DA05CM or DA12CL.

GRAPHS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

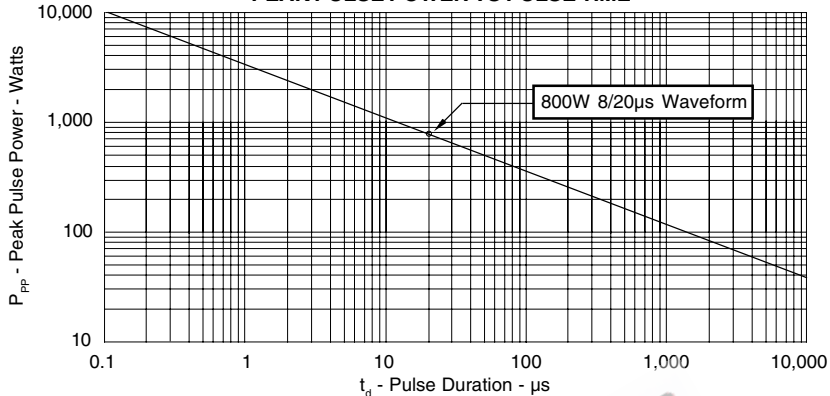


FIGURE 2  
PULSE WAVE FORM

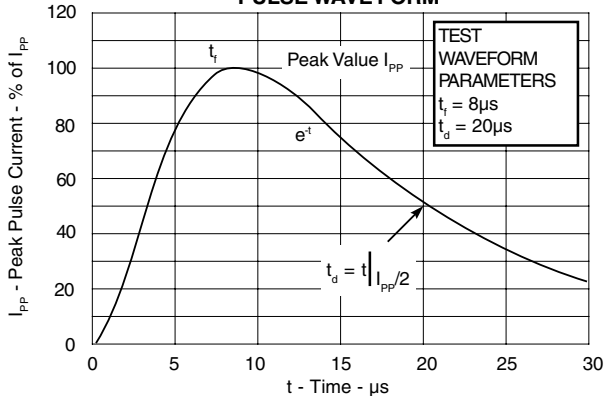
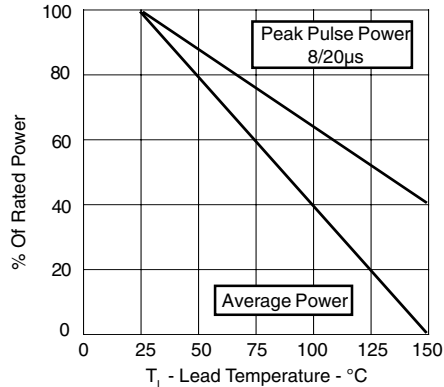


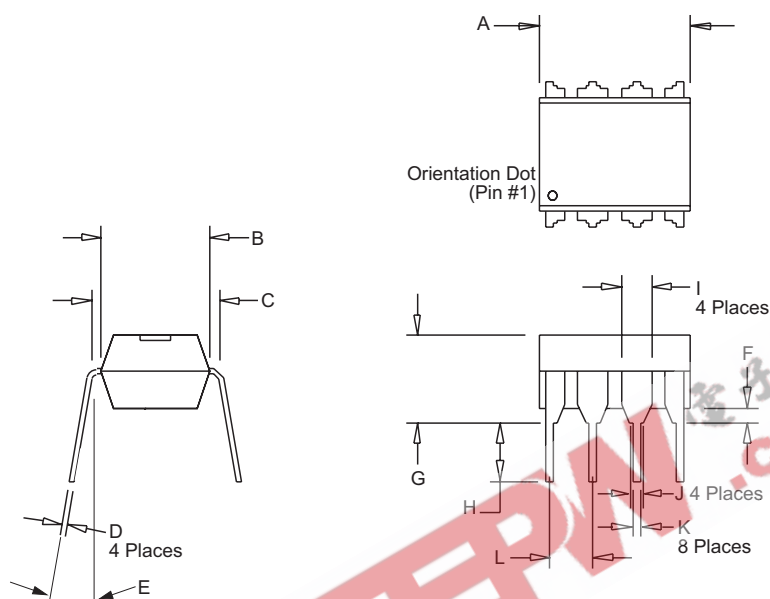
FIGURE 3  
POWER DERATING CURVE



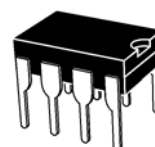
# DA05L thru DA24CM

## 8 PIN DIP PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE



### 8 PIN DIP



### DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	10.2	-	0.400
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 50 pcs per Tube.
2. Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., DA05L-LF.

Outline & Dimensions: Rev 1 - 11/01, 06004

COPYRIGHT © ProTek Devices 2007

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC).

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

#### ProTek Devices

2929 South Fair Lane, Tempe, AZ 85282

Tel: 602-431-8101 Fax: 602-431-2288

E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)

Web Site: [www.protekdevices.com](http://www.protekdevices.com)