

## 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)

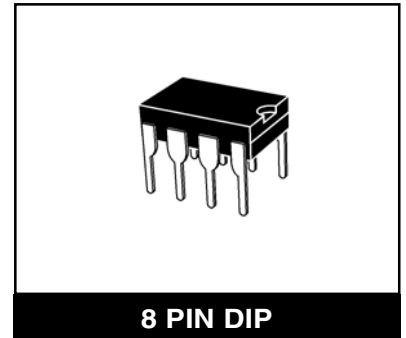
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s Level 2 (Line-Ground) & Level 3 (Line-Line)

## 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

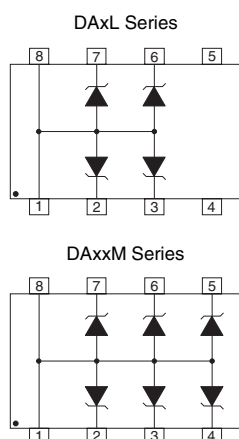
## MECHANICAL CHARACTERISTICS

- ✓ 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

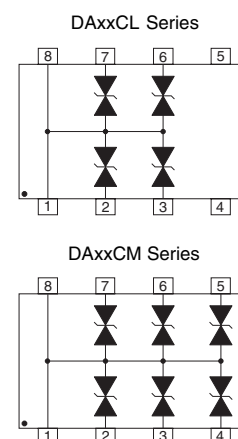


## PIN CONFIGURATIONS

### 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

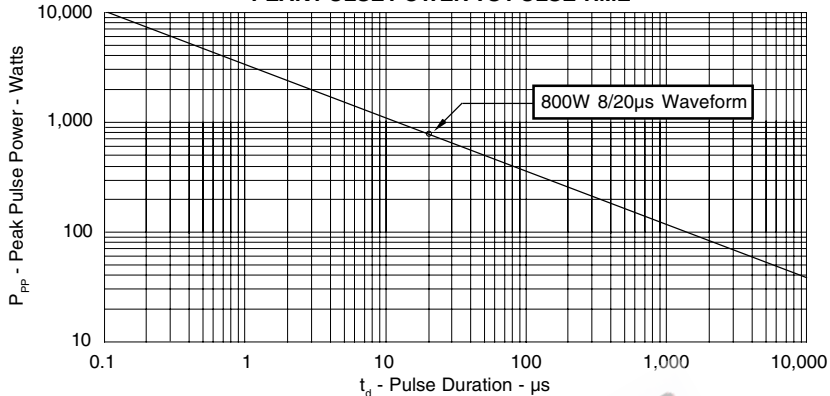
### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

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



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FIGURE 2  
PULSE WAVE FORM

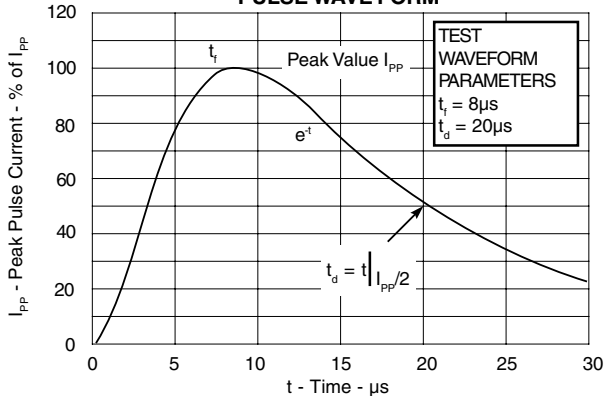
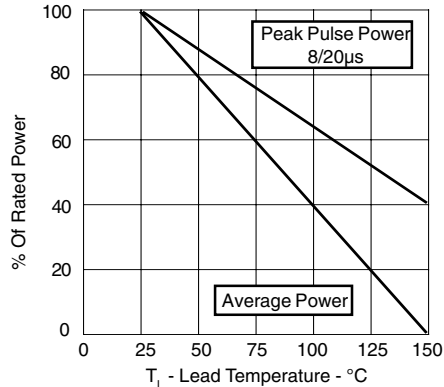


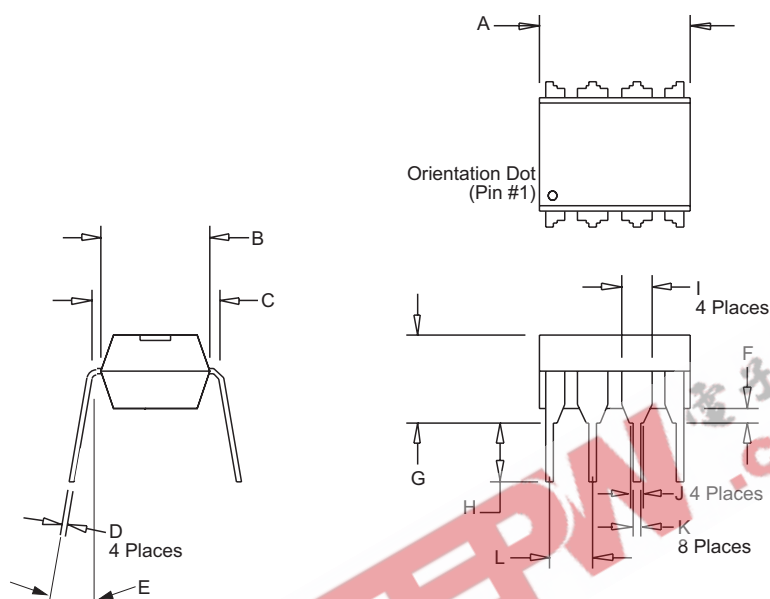
FIGURE 3  
POWER DERATING CURVE



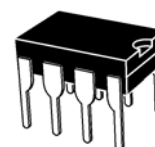
# DA05L thru DA24CM

## 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

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