

APPLICATIONS

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

FEATURES

- Meets IEC 1000-4-2, -4 & -5 Industry Requirements
- 500 Watts Peak Pulse Power Dissipation (8/20 μ s)
- Available in 4 Voltage Types Ranging from 5.0V to 24V
- ESD Protection > 40 kilovolts
- Standard Dual-in-Line Package
- Internal Common Ground
- UL 94V-0 Flammability Classification

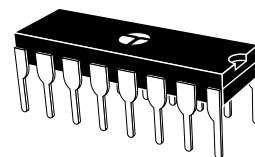
DESCRIPTION

This sixteen (16) pin diode array family is a series of silicon transient voltage suppressors (TVS) designed for use in applications where voltage transients such as ESD, EFT, and tertiary lightning can permanently damage sensitive components or equipment. This device protects against the Electromagnetic Compatibility (EMC) transient immunity standards IEC 1000-4-2, -4, -5 and European standard EN50082.

This series has a peak pulse power (P_{PP}) rating of 500 Watts for an 8/20 μ s waveshape. Typically, the DA series can be used to protect a combination of 8 to 12 unidirectional or bidirectional lines with four ground pins per package for a low impedance ground connection.

MAXIMUM RATINGS	
P_{PP} @ 25°C (See Figure 1)	500 Watts, 8/20 μ s Waveshape
Forward Surge Rating	10A, 1/120 seconds @ 25°C (Unidirectional Only)
Operating & Storage Temperature	-55° to +150°C
Repetition Rate (Duty Cycle)	0.01%
$t_{Clamping}$ (0 Volts to $V_{(BR)}$ Min.)	Unidirectional: < 1 x 10 ⁻¹² seconds Bidirectional: < 10 x 10 ⁻⁹ seconds
MECHANICAL CHARACTERISTICS	
Package	Molded Plastic 16 Pin Dual-in-Line Package
Common Ground Pins	Pin Nos. 1, 8, 9 & 16
Approximate Weight	1.2 grams
Device Markings	Logo & Part Number
Miscellaneous	Pin No. 1 Indicated by Dot on Top of Package

IEC 1000-4 COMPATIBLE

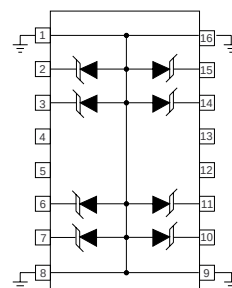


16 PIN PLASTIC DIP

CIRCUIT DIAGRAMS

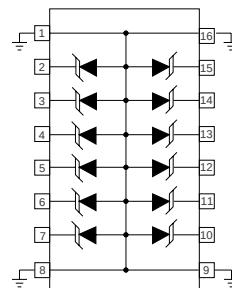
UNIDIRECTIONAL

DA05N
DA12N
DA15N
DA24N



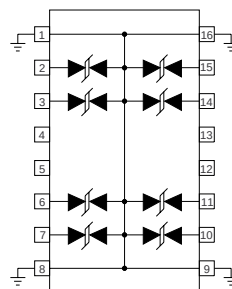
UNIDIRECTIONAL

DA05P
DA12P
DA15P
DA24P



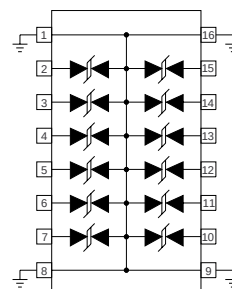
BIDIRECTIONAL

DA05CN
DA12CN
DA15CN
DA24CN



BIDIRECTIONAL

DA05CP
DA12CP
DA15CP
DA24CP



ELECTRICAL CHARACTERISTICS @ 25° C Ambient Temperature

PROTEK PART NUMBER (See Note 1)	UNIDIRECTIONAL					BIDIRECTIONAL				
	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE	MAXIMUM LEAKAGE CURRENT	MAXIMUM CAPACITANCE	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE	MAXIMUM LEAKAGE CURRENT	MAXIMUM CAPACITANCE
	(See Note 2) V_{WM} VOLTS	@ 1 mA $V_{(BR)}$ VOLTS	@ $I_P = 10$ A V_C VOLTS	@ V_{WM} I_D μA	@ 0V, 1 MHz C pF	(See Note 1) V_{WM} VOLTS	@ 1 mA $V_{(BR)}$ VOLTS	@ $I_P = 10$ A V_C VOLTS	@ V_{WM} I_D μA	@ 0V, 1 MHz C pF
See Circuit Diagram	5.0	6.0	12.5	200	880	5.0	6.0	12.5	200	500
	12.0	13.3	26.0	2	440	12.0	13.3	26.0	2	385
	15.0	16.7	33.0	2	400	15.0	16.7	33.0	2	300
	24.0	26.7	52.1	2	275	24.0	26.7	52.1	2	200

Note 1: For unidirectional devices only; $V_F = 1.5$ Volts @ 100mA, 300 μ s (square wave).

Note 2: Use DA05N, DA05P, DA05CN, DA05CP for 5 Volt stand-off voltage, DA12N, DA12P, DA12CN, DA12CP for 12 Volt stand-off voltage, etc. . .

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

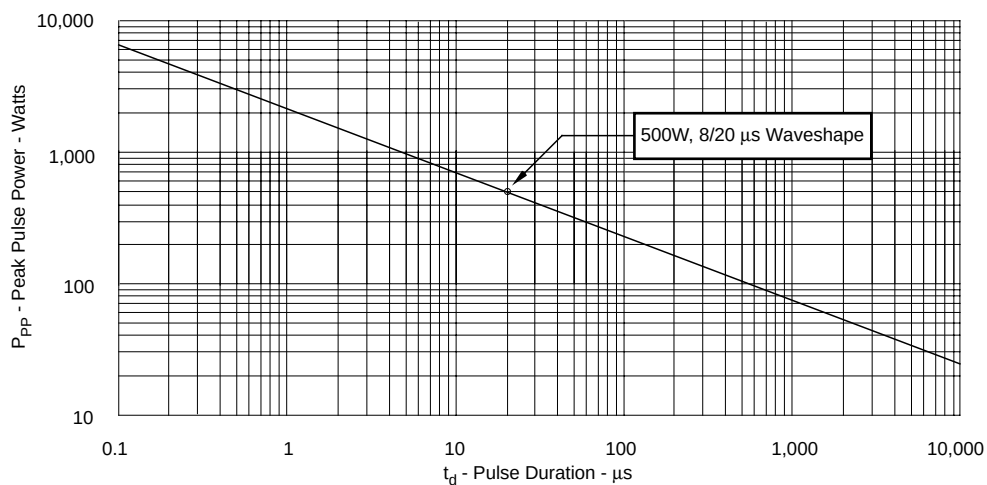


FIGURE 2
PULSE WAVE FORM

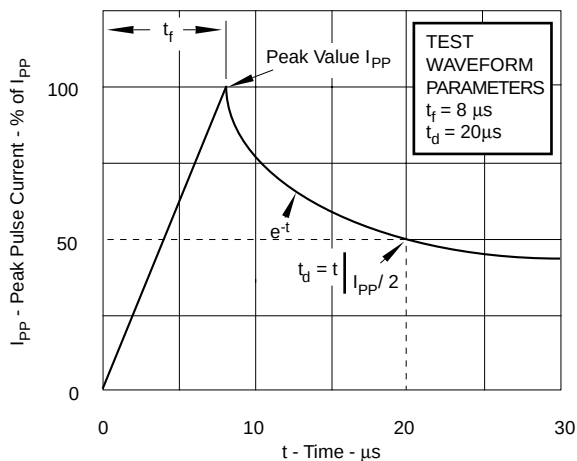
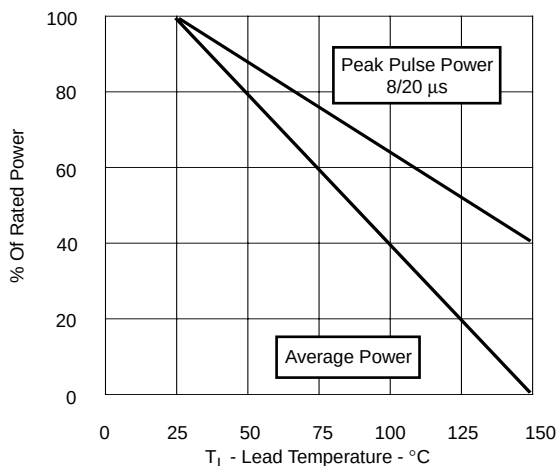


FIGURE 3
POWER DERATING CURVE



16 PIN PLASTIC DIP

