

STANDARD CAPACITANCE TVS ARRAY

APPLICATIONS

- ✓ RS-232, RS-422 & RS-423 Data Lines
- ✓ Microprocessor Based Equipment
- ✓ Control & Monitoring Equipment
- ✓ Portable Electronics

IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 12A, 8/20 μ s - Level 1(Line-Gnd) & Level 2(Line-Line)

FEATURES

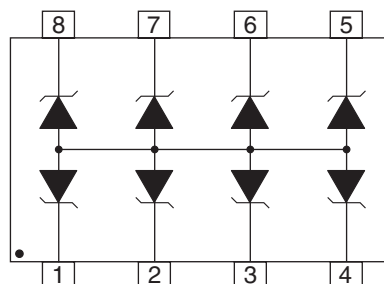
- ✓ 500 Watts Peak Pulse Power per Line (tp=8/20 μ s)
- ✓ Bidirectional Configurations
- ✓ Monolithic Design
- ✓ Available in Voltage Types Ranging From: 5V to 24V
- ✓ Protects 4 - 7 Lines
- ✓ ESD Protection > 40 kilovolts
- ✓ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC MSOP-8 Package
- ✓ Weight 24 milligrams (Approximate)
- ✓ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:
 - Tin-Lead - Sn/Pb, 85/15: 240-245°C
 - Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability rating UL 94V-0
- ✓ 12mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, Date Code & Pin One Defined By Dot on Top of Package



PIN CONFIGURATION



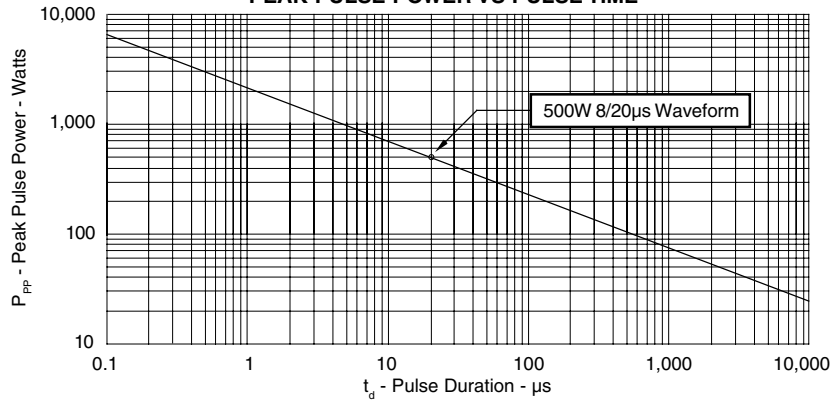
DEVICE CHARACTERISTICS

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}	500	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

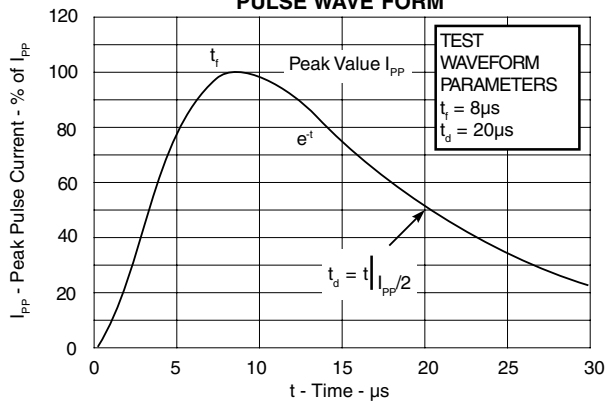
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	MAXIMUM CAPACITANCE PER LINE @ 0V, 1 MHz C pF
TSMDA05CM	REJ	5.0	6.0	9.8	19.0V @ 30A	100	350
TSMDA08CM	REK	8.0	8.5	13.4	23.7V @ 24A	10	300
TSMDA12CM	REL	12.0	13.4	19.0	29.2V @ 20A	1	150
TSMDA15CM	REM	15.0	16.7	24.0	31.1V @ 18A	1	100
TSMDA24CM	REN	24.0	26.7	43.0	45.0V @ 13A	1	63

GRAPHS

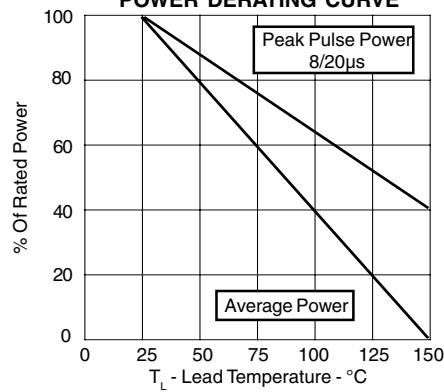
**FIGURE 1
 PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2
 PULSE WAVE FORM**



**FIGURE 3
 POWER DERATING CURVE**



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE		MSOP-8			
		PACKAGE DIMENSIONS			
DIM	MILLIMETERS		INCHES		
	MIN	MAX	MIN	MAX	
A	0.65 BSC	0.65 BSC	0.026 BSC	0.026 BSC	
B	2.90	3.10	0.114	0.122	
C	4.80	5.00	0.189	0.197	
D	2.90	3.10	0.114	0.122	
E	-	1.10	-	0.044	
F	0.05	0.25	0.002	0.010	
G	0.16	0.32	0.006	0.013	
J	-	0.95	-	0.037	
K	0°	6°	0°	6°	
M	0.09	0.24	0.004	0.009	
N	0.45	0.55	0.018	0.022	
MOUNTING PAD		NOTES			
		<p>1. - T = Seating Plane and Datum Surface.</p> <p>2. Dimensions "A" and "B" are Datum.</p> <p>3. Dimensions "A" and "B" do not include mold protrusions.</p> <p>4. Dimension "A" does not include mold flash, protrusions or gate burrs.</p> <p>6. Dimension "B" does not include dambar protrusions.</p> <p>TAPE & REEL/BULK ORDERING NOMENCLATURE</p> <p>1. Surface mount product is taped and reeled in accordance with EIA-481.</p> <p>2. Suffix-T13 = 13 Inch Reel - 4,000 pieces per 12mm tape, i.e., TSM DA05CM-T13.</p> <p>3. Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., TSM DA05CM-LF-T13.</p> <p>4. No Suffix = Product Shipped in Tubes of 102 pcs per Tube.</p>			
		Outline & Dimensions: Rev 0 - 10/03, 06046			

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