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DESCRIPTION (600 watt)

This 16 pin 2 line Bidirectional **LOW CAPACITANCE** array is designed for use in applications where protection is required at the board level. Providing protection from voltage transients caused by electrostatic discharge (ESD) as defined in IEC 1000-4-2, electrical fast transients (EFT) per IEC 1000-4-4, and effects of secondary lighting as stated by IEC 1000-4-5.

These TRANSIENT VOLTAGE SUPPRESSOR (TVS) Diode Arrays have a peak power of 600 watts for an 10x1000 μ sec pulse and are designed to be used for secondary surge protection on telephone lines. This device can be used in either common or differential mode applications. For example in the circuit diagram on the following page use: TIP to (A) and (C) to ground, RING to (B) and (D) to ground for common mode, or TIP to (A) and RING to (C), or TIP to (B) and RING to (D) for differential mode.

FEATURES

- 600 watts Peak Pulse Power 10x1000
- Protects up through 12 Volt Components
- Protects 4 Unidirectional lines or 2 Bidirectional Lines
- Provides electrically isolated protection
- SO-16 Packaging
- UL 94V-0 Flammability Classification

MAXIMUM RATINGS

- Operating Temperatures: -55°C to $+150^{\circ}\text{C}$
- Storage Temperature: -55°C to $+150^{\circ}\text{C}$
- Peak Pulse Power: 600 Watts (10/1000 μ sec, Figure 1 and 2)
- Pulse Repetition Rate: $<.01\%$

MECHANICAL

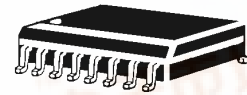
- Molded SO-16 Surface Mount
- Weight: 0.128 grams (approximate)
- Body Marked with Logo, and device number
- Pin #1 defined by DOT on top of package

PACKAGING

- Tape & Reel EIA Standard 481-1-A
- 13 inch reel 2,500 pieces (OPTIONAL)
- Carrier tubes 50 pcs per (STANDARD)

SMP6LC5.0 Thru SMP6LC12

TVSarray™ Series



ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless otherwise specified

| PART NUMBER | DEVICE MARKING | STAND-OFF VOLTAGE V_{WM} | BREAKDOWN VOLTAGE V_{BR} @10 mA | CLAMPING VOLTAGE V_C @ I_{PP} | MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μ A | PEAK PULSE CURRENT @ 10/1000 μ S I_{PP} AMPS | CAPACITANCE (f=1 MHz) @0V C PER LINE PAIR pF |
|-------------|----------------|-------------------------------|---|---|---|---|---|
| | | VOLTS | VOLTS | VOLTS | | | |
| | | MAX | MIN | MAX | TYP | TYP | TYP |
| SMP6LC05 | SMP6LC5.0 | 5.0 | 6.0 | 9.6 | 300 | 10 | 30 |
| SMP6LC6.5 | SMP6LC6.5 | 6.5 | 7.22 | 12.4 | 300 | 10 | 30 |
| SMP6LC12 | SMP6LC12 | 12.0 | 13.3 | 19.9 | 2.0 | 10 | 30 |

NOTE: Transient Voltage Suppression (TVS) product is normally selected based on its stand off voltage V_{WM} . Product selected voltage should be equal to or greater than the continuous or peak operating voltage of the circuit to be protected.

Application: The SMP6LCXX product is designed for transient voltage suppression protection of components at the board level. It is an ideal product to be used for protection of HIGH SPEED I/O TRANSCEIVERS.

MSC1379.PDF ISO 9001 CERTIFIED

REV C 10/15/99



WAVE FORMS

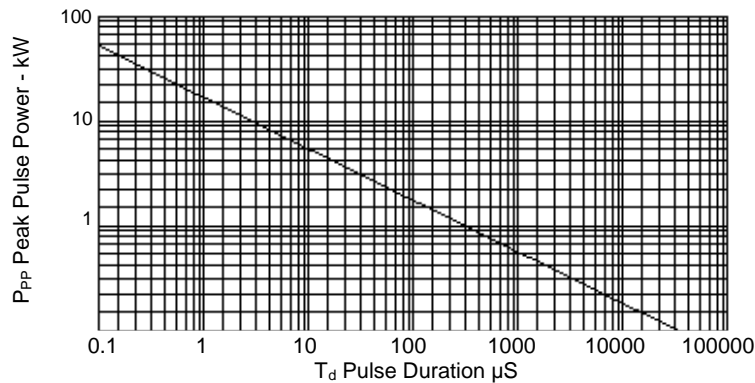


FIGURE 1
Peak Pulse Power Vs Pulse Time

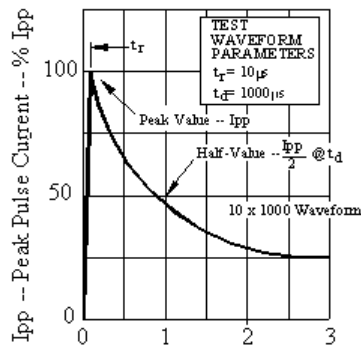
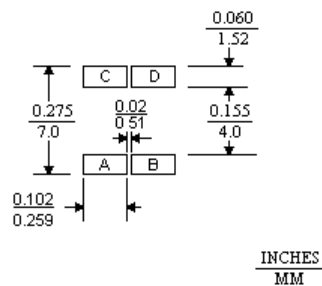
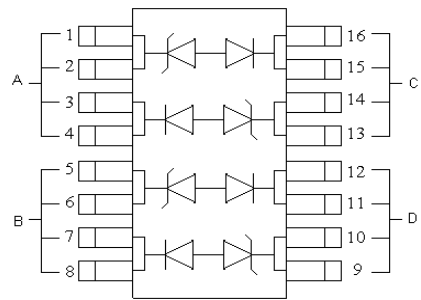


FIGURE 2
Pulse Wave Form

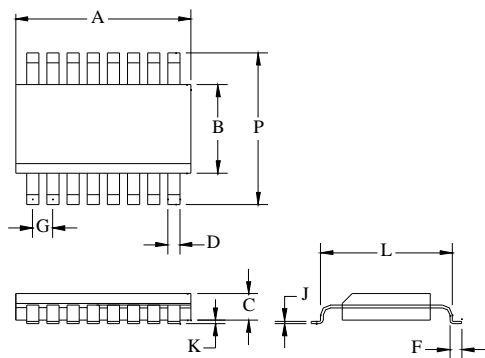
MOUNTING PAD SO-16



CIRCUIT DIAGRAM



SO-16 PACKAGE



| DIM | INCHES | | MILLIMETERS | |
|-----|-----------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.358 | 0.398 | 9.09 | 10.10 |
| B | 0.150 | 0.158 | 3.81 | 4.01 |
| C | 0.053 | 0.069 | 1.35 | 1.75 |
| D | 0.011 | 0.021 | 0.28 | 0.53 |
| F | 0.016 | 0.050 | 0.41 | 1.27 |
| G | 0.050 BSC | | 1.27 BSC | |
| J | 0.006 | 0.010 | 0.15 | 0.25 |
| K | 0.004 | 0.008 | 0.10 | 0.20 |
| L | 0.189 | 0.206 | 4.80 | 5.23 |
| P | 0.228 | 0.244 | 5.79 | 6.19 |