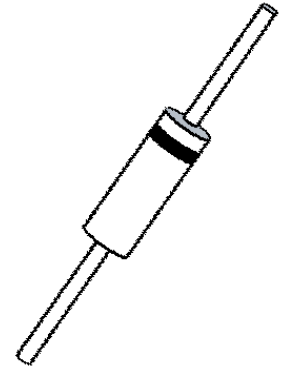


ALSO
AVAILABLE IN
SURFACE
MOUNT

DESCRIPTION

The GMP-5 series is a low voltage Transient Voltage Suppressor designed for the protection of integrated circuits with very low Clamping Voltages (V_C). Due to their very fast response time, protection level and high discharge capability, they are extremely effective in providing protection against 5-volt line transients generated by: voltage reversals, capacitive or inductive load switching, electromechanical switching, electrostatic discharge and electromagnetic coupling.

APPEARANCE



IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

FEATURES

- 500 Watts Peak Pulse Power dissipation.
- Working Voltage of 5 volts
- Protects TTL, ECL, DTL, MOS, CMOS, and MSI Integrated circuits.
- Low clamping factor
- RoHS Compliant devices available by adding "e3" suffix

APPLICATIONS / BENEFITS

- The GMP-5 is a low voltage transient suppressor designed for the protection of integrated circuits. Characterized by a very low clamping voltage together with a low standoff voltage, GMP-5's afford a high degree of protection to: TTL, ECL, DTL, MOS, CMOS, VMOS, HMOS, NMOS and static memory circuits susceptible to 5-volt line transients.

MAXIMUM RATINGS

- 500 Watts of Peak Pulse Power dissipation at 25°C.
- $t_{clamping}$ (0 volts to BV min.): Less than 1x10-12 seconds (theoretical)
- Operating and Storage Temperatures: -65°C to +175°C.
- Forward surge rating: 50 amps 1/120 second at 25°C.
- Steady State power dissipation: 5.0 W @ $T_L = 75^\circ\text{C}$, Lead Length = 3/8"
- Repetition rate (duty cycle): .05%

MECHANICAL AND PACKAGING

- CASE: Void free transfer molded thermosetting plastic.
- FINISH: Tin-lead or RoHS Compliant matte-Tin plating solderable per MIL-STD-750, method 2026
- POLARITY: Band denotes cathode.
- WEIGHT: 0.7 gram (approx.)
- MOUNTING POSITION: Any.

ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI PART NUMBER	STAND OFF VOLTAGE Note 1 V_{WM} Volts	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_b μA	MINIMUM BREAKDOWN VOLTAGE @ 1mA V (min) $V_{(BR)}$ Volts	MAXIMUM CLAMPING VOLTAGE @ $I_{PP1} = 1\text{A}$ (Fig. 2) V_C Volts	MAXIMUM CLAMPING VOLTAGE @ $I_{PP2} = 1\text{A}$ (Fig. 2) V_C Volts	MAXIMUM PEAK PULSE CURRENT (Fig 2) I_{PP3} Amps	MAXIMUM PEAK PULSE CURRENT (1.2x50 μsec) Amps
GMP - 5	5.0	300	5.3	6.7	6.9	70	215
GMP - 5A	5.0	100	5.5	6.7	6.9	70	215
GMP - 5B	5.0	300	5.3	6.4	6.6	70	215

V_f at 50 amps peak, 8.3 msec sine wave = 3.5 volts maximum

NOTE 1: A TVS is usually selected according to the reverse "Stand Off Voltage" (V_{WM}) which should be equal to or greater than the DC or continuous peak operating voltage level.

OUTLINE AND CIRCUIT

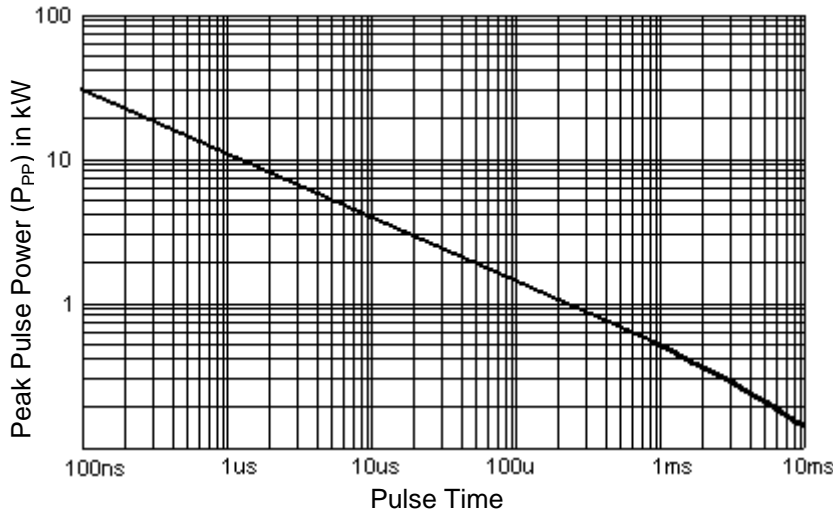


FIGURE 1
Peak Pulse Power vs. Pulse Time

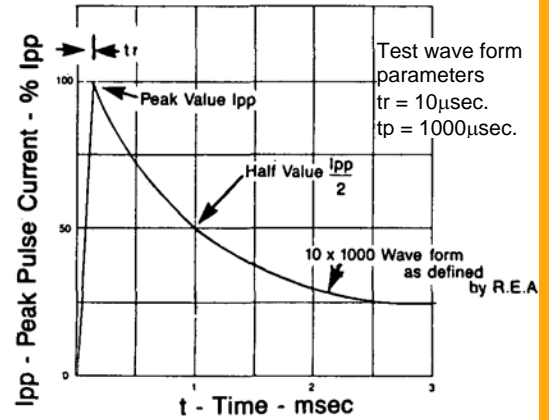


FIGURE 2
Pulse Wave Form

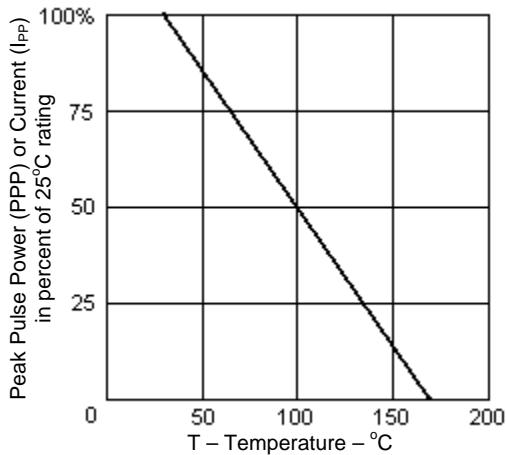


FIGURE 3
Derating Curve

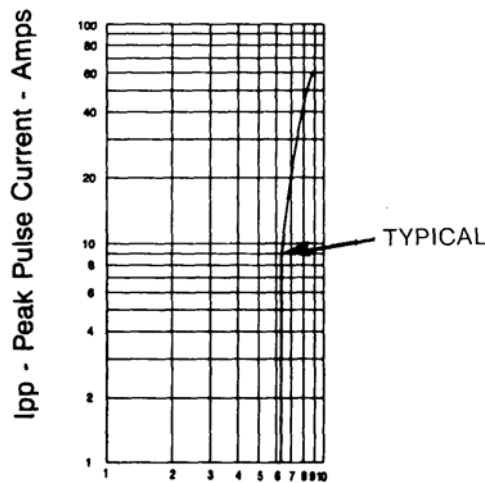


FIGURE 4
Typical Characteristic Clamping Voltage (V_C) vs. Peak Pulse Current (I_{PP})

