Microsemi Corp.
The diode experts

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BIDIRECTIONAL VARISTOR MSV SERIES

FEATURES

The MSV series consists of a matched set of silicon junctions configurated for bidirectional application. They can be used in telephone equipment, replacing: copper oxide varistors, fractional voltage regulators, negative temperature coefficient resistors, signal limiters and expanders. They are ideally suited for: meter/galvanometer protection, wave shaping, threshold limiters and zener diode compensation. Non-standard voltages are also available.

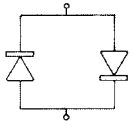
The MSV varistor is a PN junction device configurated with two parallel-connected, matched, bidirectional, highly reliable silicon diodes. It is a two-electrode device with a voltage-dependent nonlinear resistance that drops markedly as the applied voltage is increased.

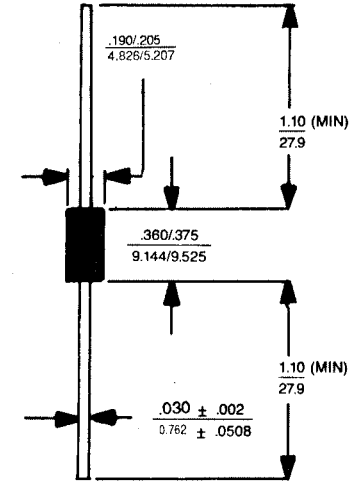
MSV devices are designed for controlled protection at various current levels and are rated at 70 amps peak pulse current.

These varistors are supplied in Microsemi's exclusive, cost-effective, highly reliable, molded axial leaded package.

MAXIMUM RATINGS

Steady State Power: 1.0 Watt at 50°C
Operating and Storage Temperatures: -65° to +175°C
Surge: 30 Amps, 8.4 ms @ 25°C
70 Amps, 1.0 ms @ 25°C
$t_{clamping}$ (0 volts to BV min.): less than $1x10^{-8}$ seconds (theoretical)





dimensions: inches / mm

MECHANICAL CHARACTERISTICS

CASE: Void free molded thermosetting plastic. (DO-201AA)

FINISH: Silver plated CCFE readily solderable.

POLARITY: Bidirectional.

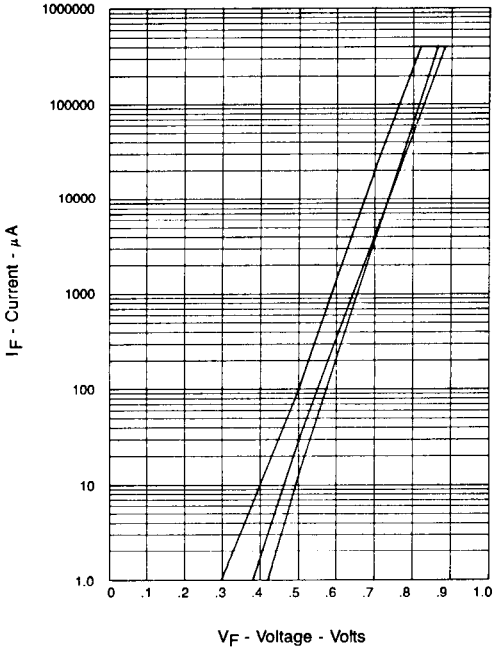
WEIGHT: 1.5 grams. (Appx.).

MOUNTING POSITION: Any.

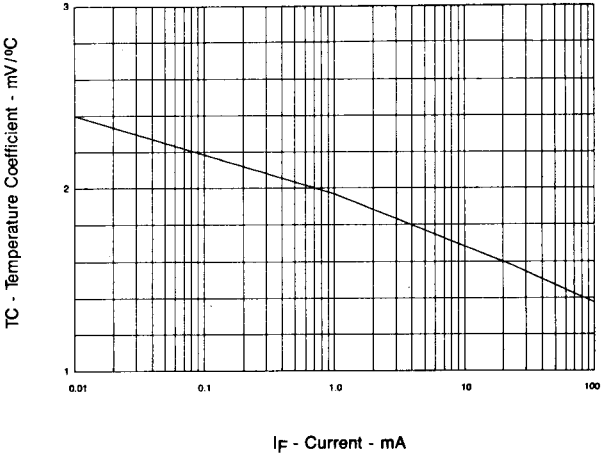
MSV SERIES

ELECTRICAL CHARACTERISTICS at 25°C (Test Both Polarities).

MICROSEMI PART NUMBER	SYMBOL	CONDITIONS	LIMITS Minimum	LIMITS Maximum	UNITS
MSV 101	V_F	10.0μA	.35	.50	Vdc
	V_F	100.0mA	.74	.85	Vdc
MSV 102	V_F	100.0mA	.74	.85	Vdc
	I_F	0.2V		.10	μA
MSV 103	V_F	1.0μA	.30	.45	Vdc
	V_F	10.0μA	.40	.50	Vdc
	V_F	100.0μA	.48	.58	Vdc
	V_F	1.0mA	.56	.66	Vdc
	V_F	10.0mA	.65	.74	Vdc
	V_F	100.0mA	.75	.82	Vdc
MSV 201	V_F		.70	1.00	Vdc
	V_F		1.48	1.70	Vdc



Range Curve
Current - Voltage for MSV Varistor
(Typical Curves for the MSV 103)



Ambient Temperature Coefficient
Of Voltage vs. Varistor Current