

# MV Series — Low Voltage Leaded Dual Function Varistors/RFI Suppressors

## Description

MV Series varistors/suppressors are dual function devices that protect electronic equipment operating in the low voltage region against voltage surges and high-frequency noise, replacing two components: a low voltage varistor and a capacitor.

The MV Series incorporates a varistor function in the DC voltage range from 3V to 125V and the function of a high-frequency by-pass capacitor operating in the capacitance range from 10nF to 1,000nF. They are intended for protection of all sensitive electronic devices experiencing both voltage transient and high-frequency noise produced by electromechanical devices such as buzzers, relays, etc.

MV varistors/suppressors are square shaped components with in-line leads, which require at least 30% less mounting space than the two components they replace



## Features

- AC operating voltage (Vrms) from 2V to 95V
- DC operating voltage (Vdc) from 3V to 125V
- Capacitance range (@1 kHz) from 10nF to 1,000nF
- Capacitor temperature characteristic Z5U/Y5V
- Protects against voltage transients and suppresses high-frequency interference
- Dimensional and weight savings on PC board
- One model size available 6x9mm
- In-line leads
- Available with crimped leads

General Technical Data		
Capacitance Range	10nF to 1,000nF	
Capacitor Temperature characteristic	Z5U or Y5V	
Operating Temperature	-40°C to +85°C	In accordance with CECC 42 000
Storage Temperature Range	-40°C to +125°C	
Threshold Voltage Temperature Coefficient	<-0.05%/°C	
Insulation Resistance	>1Gohm	
Isolation Voltage Capability	>1kV	
Response Time	< 25 nS	

## How to Order

MV	1	20	K	104	M	Z	R																												
SEI Type	Lead style	Vrms	Tolerance	Capacitance value	Capacitance Tolerance	Dielectric material	Packaging																												
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## Standard Packaging Options/ Quantities

Series	Voltage Range (Vrms)	Model Size	Packaging options 7mm, 10mm, 14mm, 20mm, and 23mm		
			B = Bulk; R = Reel; A = Ammo Pack		
			B	R	A
MV	2 – 95	6 x 9mm	2,000	2,000	2,500

# MV Series — Low Voltage Leaded Dual Function Varistors/RFI Suppressors

## Device Ratings and Dimensions

Part Number	V <sub>RMS</sub> (volts)	V <sub>DC</sub> (volts)	V <sub>N</sub> (volts)	V <sub>C</sub> (volts)	W <sub>MAX</sub> (joules)	P <sub>MAX</sub> (watts)	I <sub>P</sub> (amps)	C <sub>TYP</sub> (nF)	D <sub>MAX</sub> (mm)	h <sub>MAX</sub> (mm)	R (mm)	d (mm)	t <sub>MAX</sub> (mm)
MV 2 M 103 MZ	2	3	4	10	0.1	0.01	150	10	6	9	5	0.6	5.5
MV 4 L 103 MZ	4	5.5	8	14	0.2	0.01	150	10	6	9	5	0.6	5.5
MV 6 L 103 MZ	6	8	11	21	0.2	0.01	150	10	6	9	5	0.6	5.5
MV 8 L 103 MZ	8	11	15	25	0.3	0.01	150	10	6	9	5	0.6	5.5
MV 11 K 103 MZ	11	14	18	35	0.8	0.01	150	10	6	9	5	0.6	5.5
MV 14 K 103 MZ	14	18	22	38	0.9	0.01	150	10	6	9	5	0.6	5.5
MV 17 K 103 MZ	17	22	27	49	1.1	0.01	150	10	6	9	5	0.6	5.5
MV 20 K 103 MZ	20	26	33	54	1.3	0.01	150	10	6	9	5	0.6	5.5
MV 25 K 103 MZ	25	31	39	65	1.7	0.01	150	10	6	9	5	0.6	5.5
MV 30 K 103 MZ	30	38	47	77	2.0	0.01	150	10	6	9	5	0.6	5.5
MV 35 K 103 MZ	35	45	56	90	2.2	0.01	150	10	6	9	5	0.6	5.5
MV 40 K 103 MZ	40	56	68	110	2.3	0.01	150	10	6	9	5	0.6	5.5
MV 50 K 103 MZ	50	65	82	135	2.3	0.01	150	10	6	9	5	0.6	5.5
MV 60 K 103 MZ	60	85	100	165	2.3	0.01	150	10	6	9	5	0.6	5.5
MV 95 K 103 MZ	95	125	150	250	2.5	0.01	150	10	6	9	5	0.6	5.5
MV 2 M 104 MZ	2	3	4	10	0.1	0.01	150	100	6	9	5	0.6	5.5
MV 4 L 104 MZ	4	5.5	8	14	0.2	0.01	150	100	6	9	5	0.6	5.5
MV 6 L 104 MZ	6	8	11	21	0.2	0.01	150	100	6	9	5	0.6	5.5
MV 8 L 104 MZ	8	11	15	25	0.3	0.01	150	100	6	9	5	0.6	5.5
MV 11 K 104 MZ	11	14	18	35	0.8	0.01	150	100	6	9	5	0.6	5.5
MV 14 K 104 MZ	14	18	22	38	0.9	0.01	150	100	6	9	5	0.6	5.5
MV 17 K 104 MZ	17	22	27	49	1.1	0.01	150	100	6	9	5	0.6	5.5
MV 20 K 104 MZ	20	26	33	54	1.3	0.01	150	100	6	9	5	0.6	5.5
MV 25 K 104 MZ	25	31	39	65	1.7	0.01	150	100	6	9	5	0.6	5.5
MV 30 K 104 MZ	30	38	47	77	2.0	0.01	150	100	6	9	5	0.6	5.5
MV 35 K 104 MZ	35	45	56	90	2.2	0.01	150	100	6	9	5	0.6	5.5
MV 40 K 104 MZ	40	56	68	110	2.3	0.01	150	100	6	9	5	0.6	5.5
MV 50 K 104 MZ	50	65	82	135	2.3	0.01	150	100	6	9	5	0.6	5.5
MV 60 K 104 MZ	60	85	100	165	2.3	0.01	150	100	6	9	5	0.6	5.5
MV 95 K 104 MZ	95	125	150	250	2.5	0.01	150	100	6	9	5	0.6	5.5
MV 2 M 105 MZ	2	3	4	10	0.1	0.01	150	1,000	6	9	5	0.6	5.5
MV 4 L 105 MZ	4	5.5	8	14	0.2	0.01	150	1,000	6	9	5	0.6	5.5
MV 6 L 105 MZ	6	8	11	21	0.2	0.01	150	1,000	6	9	5	0.6	5.5
MV 8 L 105 MZ	8	11	15	25	0.3	0.01	150	1,000	6	9	5	0.6	5.5
MV 11 K 105 MZ	11	14	18	35	0.8	0.01	150	1,000	6	9	5	0.6	5.5
MV 14 K 105 MZ	14	18	22	38	0.9	0.01	150	1,000	6	9	5	0.6	5.5
MV 17 K 105 MZ	17	22	27	49	1.1	0.01	150	1,000	6	9	5	0.6	5.5
MV 20 K 105 MZ	20	26	33	54	1.3	0.01	150	1,000	6	9	5	0.6	5.5
MV 25 K 105 MZ	25	31	39	65	1.7	0.01	150	1,000	6	9	5	0.6	5.5
MV 30 K 105 MZ	30	38	47	77	2.0	0.01	150	1,000	6	9	5	0.6	5.5
MV 35 K 105 MZ	35	45	56	90	2.2	0.01	150	1,000	6	9	5	0.6	5.5
MV 40 K 105 MZ	40	56	68	110	2.3	0.01	150	1,000	6	9	5	0.6	5.5
MV 50 K 105 MZ	50	65	82	135	2.3	0.01	150	1,000	6	9	5	0.6	5.5
MV 60 K 105 MZ	60	85	100	165	2.3	0.01	150	1,000	6	9	5	0.6	5.5
MV 95 K 105 MZ	95	125	150	250	2.5	0.01	150	1,000	6	9	5	0.6	5.5

Other capacitance values >1,000nF are also available. Contact factory.