

Multilayer Chip Varistor *Joyin Co., Ltd.*

Introduction:



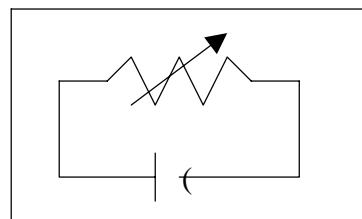
Joyin's metal oxide based chip varistors (JMVs) are used for transient voltage suppression. JMVs have non-linear voltage-current behavior, which is similar to that of Zener diode. Since each grain in JMV exhibits small p-n junction, it has much better electrical reliability than Zener diode. Furthermore, JMVs also exhibit better electrical properties such as excellent clamping voltage and low leakage current.

Features:

- Small size and SMD compatibility
- Excellent clamping performance
- High transient current capability
- Fastest response time
- Low voltage available

Applications:

- IC and transistor protection
- Computer ESD and I/O protection
- Telecommunication transient protection
- Automotive circuitry applications



Equivalent Circuit

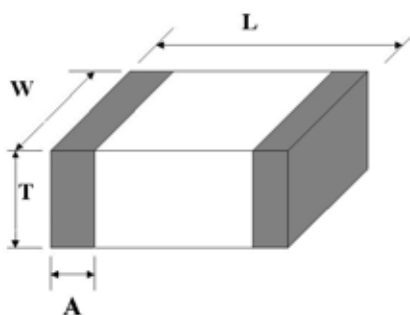
Electrical Data:

Item	General Specification
Continuous Rating Steady State of Applied Voltage: DC Voltage Range ($V_{w_{dc}}$)	3.3 V to 30 V
Transient Rating: Non-Repetitive Surge Current (8/20 μs) Non-Repetitive Energy (10/1000 μs) Waveform(E_T) Operating Ambient Temperature Range: Storage Temperature Range:	20A to 100A 0.05 J to 0.1 J -55 to 125 -55 to 150

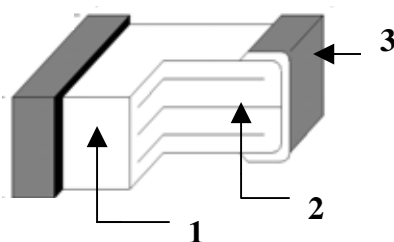
Multilayer Chip Varistor

Joyin Co., Ltd.

Dimensions & Construction:



Dimensions in mm				
Chip Size	L	W	T	A
1005	1.0 ± 0.1	0.50 ± 0.1	0.50 ± 0.1	0.25 ± 0.15
1608	1.6 ± 0.15	0.80 ± 0.15	0.80 ± 0.15	0.35 ± 0.2
2012	2.0 ± 0.20	1.25 ± 0.20	1.20 ± 0.20	0.50 ± 0.20
3216	3.2 ± 0.20	1.6 ± 0.20	1.8 (max.)	0.55 ± 0.25



Chip Construction	
Symbol	Materials
1	Zinc Oxide Ceramics
2	Metal Inner Electrode
3	Metal End Termination

How To Order:

JMV 1005 S 3R3 T 121

Joyin Multilayer Varistor

Multilayer Varistor Size
(See Dimension Table)

Multilayer Varistor Series

S: Surge Protect Series

E: ESD Protect Series

Capacitance Value:

Sym.	Cap.	Sym.	Cap.	Sym.	Cap.	Sym.	Cap.
150	15	141	140	351	350	651	650
300	30	181	180	361	360	781	780
900	90	201	200	381	380	102	1000
101	100	231	230	501	500	132	1300
121	120	281	280	531	530	182	1800

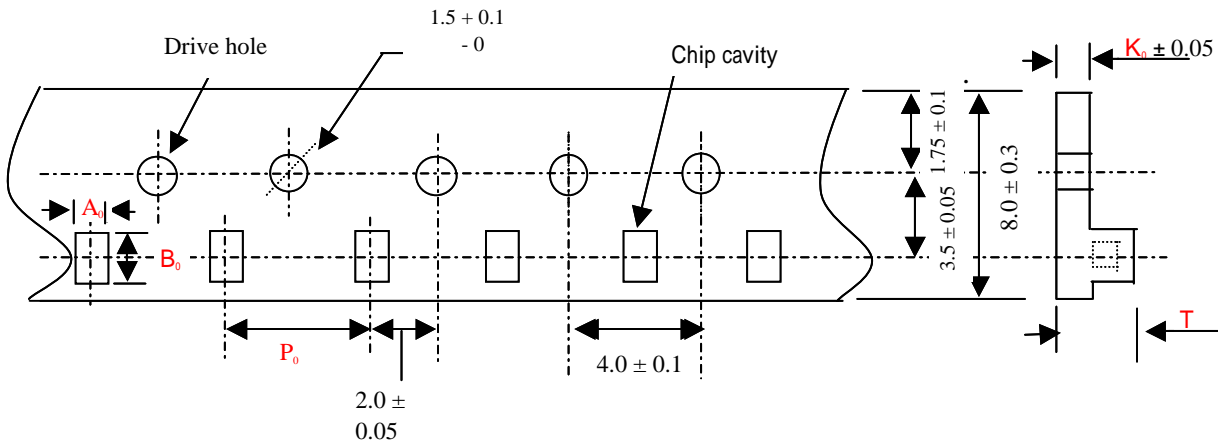
Packaging: T: Tape in Reel

B: Bulk

Working Voltage:

Sym.	Voltage	Sym.	Voltage
3R3	3.3 V	5R6	5.6 V
090	9.0 V	140	14 V
180	18 V	260	26 V
270	27 V	300	30 V

Tape and Reel Specifications:



Dimensions of blister tap in mm

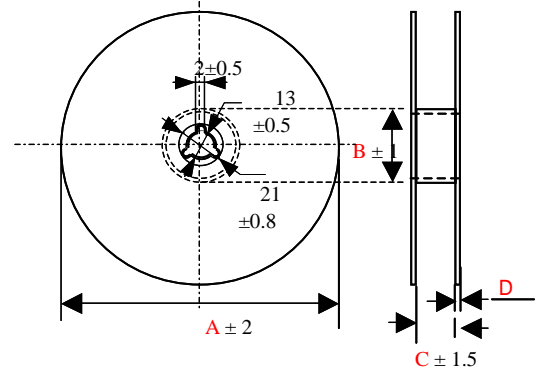
Size	$A_o \pm 0.1$	$B_o \pm 0.1$	$P_o \pm 0.1$	K_o (max.)	T (max.)
1005	0.60	1.10	2.0	0.2	1.0
1608	1.14	1.75	4.0	0.2	1.15
2012	1.50	2.30	4.0	0.2	2.5

Remark: A_o = width of cavity, B_o = length of cavity, P_o = axial distance between drive hole centers, K_o = depth of cavity, T = top tape thickness

Reel Specifications:

Dimensions : in mm

Size	A	B	C	D
1005	178	60	10	2
1608	178	60	10	2
2012	178	60	10	2



Carrier Tape : Polystyrene

Cover Tape : Polystyrene

Packing Quantity

Size	Bulk	Pcs/RI
1005	▼	10000
1608	▼	4000

