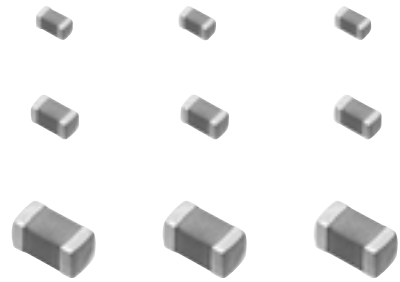


## Multilayer Varistor for ESD pulse [DC voltage lines/High speed signal lines]

Series : **EZJZ, EZJP**



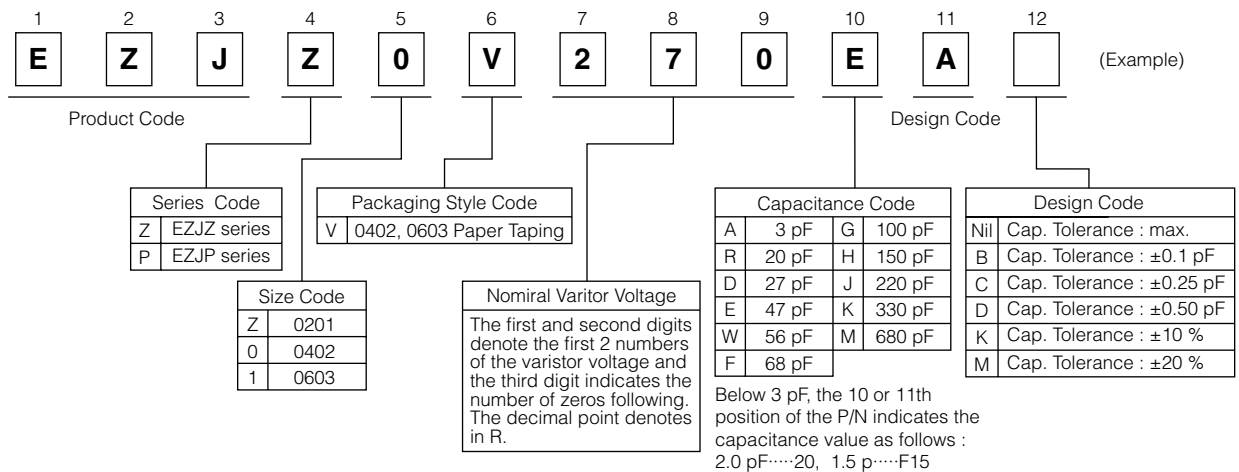
### ■ Features

- Excellent ESD suppression due to advanced material technology
- Meets IEC61000-4-2, Level 4 standard
- Can replace 2 Zener Diodes and 1 Capacitor
- Low capacitance versions for DC voltage lines of high speed busses
- Ultra low capacitance for signal lines of high speed busses
- Ideal usage for USB 2.0, IEEE1394, and HDMI high speed data busses
- RoHS compliant

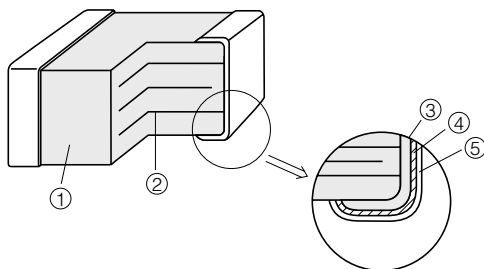
### ■ Packaging Methods, Handling Precautions

Please see Data Files

### ■ Explanation of Part Numbers

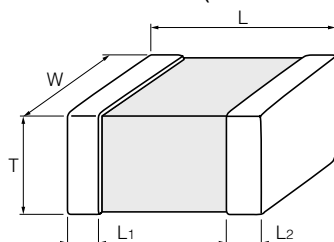


### ■ Construction



No.	Name
①	Semiconductive Ceramics
②	Internal electrode
③	Substrate electrode
④	Terminal electrode
⑤	Intermediate electrode
	External electrode

### ■ Dimensions in mm (not to scale)



Size Code	Size(inch)	L	W	T	L <sub>1</sub> , L <sub>2</sub>
Z	0201	0.60±0.03	0.30±0.03	0.30±0.03	0.15±0.05
0	0402	1.00±0.05	0.50±0.05	0.50±0.05	0.2±0.1
1	0603	1.6±0.1	0.8±0.1	0.8±0.1	0.3±0.2

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

# Multilayer Varistor, Low Capacitance Type [High speed signal lines]

### ■ Features

- Multilayer monolithic ceramic construction for high speed signal lines
- Ideal usage for USB 2.0, IEEE1394, and HDMI high speed data busses
- Capacitance : 0.8 to 2.1 pF typ.

### ■ Recommended Applications

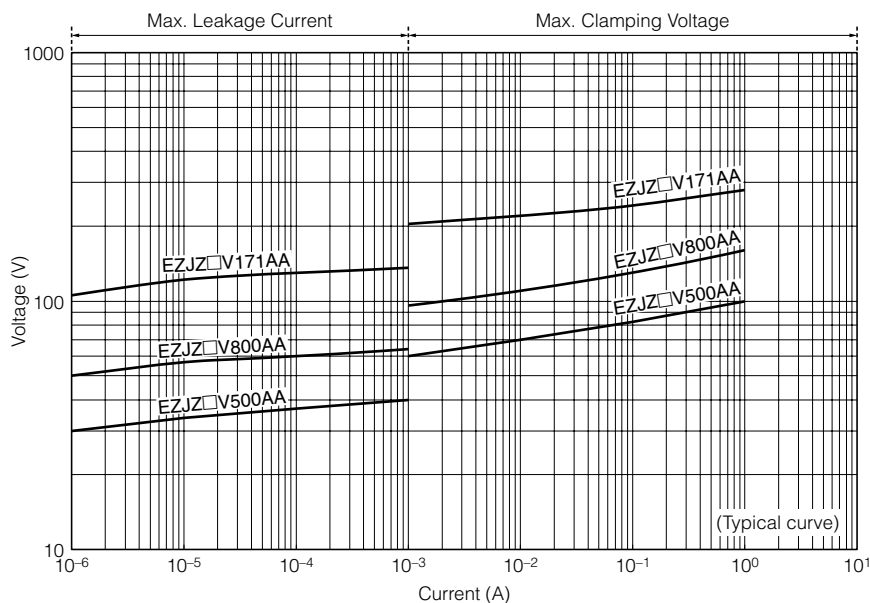
Mobile phone	Antenna circuit, External IF
DSC, DVC	USB2.0, IEEE1394
PC, PDA	USB2.0, IEEE1394, LAN1000BASE
TV, DVD	USB2.0, IEEE1394, HDMI
Game console	Controller, External IF

### ■ Ratings and Characteristics

Size	Part No.	Maximum allowable voltage DC (V)	Nominal varistor voltage at 1mA (V)	Capacitance (pF) at 1MHz	Maximum ESD IEC61000-4-2
0402	EZJZ0V80010	10	80	1 max. [0.8 typ.]	Contact discharge : 8kV
	EZJZ0V80015D	5	80	1.5±0.5	
	EZJZ0V500AA	5	50	3 max. [2.1 typ.]	
	EZJZ0V800AA	18	80	3 max. [2.1 typ.]	
	EZJZ0V171AA	18	170	3 max. [2.1 typ.]	
0603	EZJZ1V80010	10	80	1 max. [0.8 typ.]	
	EZJZ1V500AA	5	50	3 max. [2.1 typ.]	
	EZJZ1V800AA	18	80	3 max. [2.1 typ.]	
	EZJZ1V171AA	18	170	3 max. [2.1 typ.]	

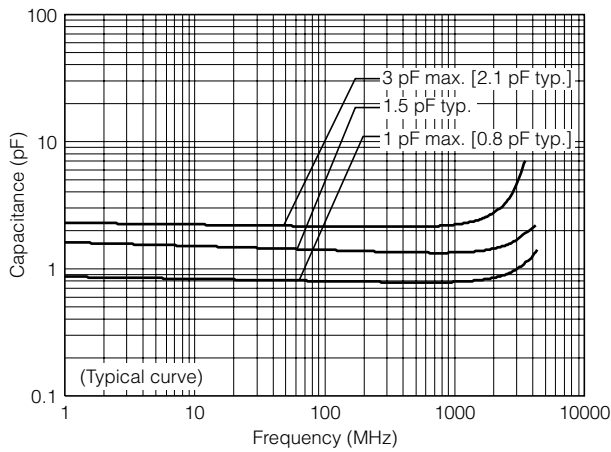
- Operating Temperature Range : -40 to 85 °C
- \* Recommend soldering method : Reflow soldering

### ■ Voltage vs. Current

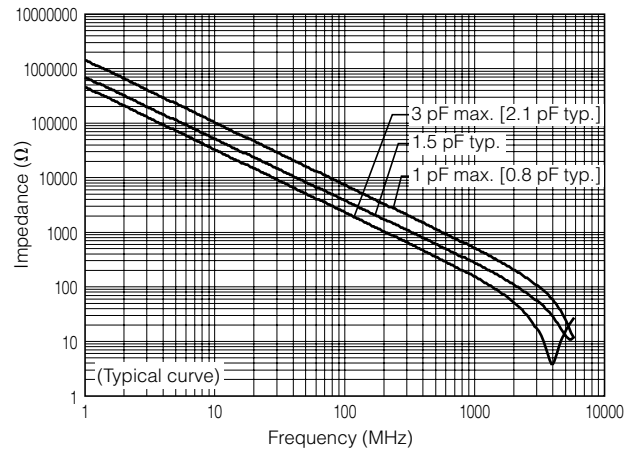


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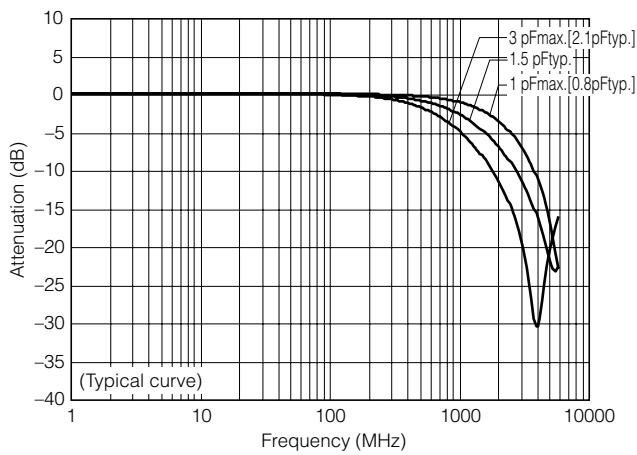
## ■ Frequency vs. Capacitance



## ■ Frequency vs. Impedance



## ■ Frequency vs. Transmission

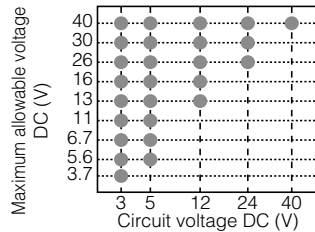


## Multilayer Varistor, Low Voltage Type (Standard Type) [DC voltage lines/Low speed signal lines]

### ■ Features

Multilayer monolithic ceramic construction for use protecting DC voltage lines or signal lines

### ● Circuit voltage



● Varistor voltage : 6.8 to 65 V [at 1 mA]

● Capacitance : 8.5 to 420 pF typ. [at 1 MHz]

### ■ Ratings and Characteristics

Size	Part No.	Maximum allowable voltage DC (V)	Nominal varistor voltage at 1mA (V)	Capacitance (pF)		Maximum peak current at 8/20μs, 2times (A)	Maximum ESD IEC61000-4-2
				at 1MHz	at 1kHz		
0201	EZJPZV6R8JA	3.7	6.8	220 max. [180 typ.]	175 typ.	5	Contact discharge 8 kV
	EZJPZV6R8GA	3.7	6.8	100 max. [ 85 typ.]	100 typ.	5	
	EZJPZV080GA	5.6	8	100 max. [ 85 typ.]	100 typ.	5	
	EZJPZV120GA	7.5	12	100 max. [ 85 typ.]	100 typ.	5	
	EZJPZV120DA	7.5	12	27 max. [ 22 typ.]	33 typ.	1	
	EZJPZV120RA	7.5	12	20 max. [ 15 typ.]	18 typ.	1	
	EZJPZV150RA	9	15	20 max. [ 15 typ.]	18 typ.	1	
	EZJPZV270RA	16	27	20 max. [ 15 typ.]	16.5 typ.	1	
	EZJPZV270BA	16	27	10 max. [8.5 typ.]	10 typ.	1	
0402	EZJP0V6R8MA	3.7	6.8	680 max. [420 typ.]	650 typ.	20	
	EZJP0V6R8GA	3.7	6.8	100 max. [ 85 typ.]	100 typ.	3	
	EZJP0V080MA	5.6	8	680 max. [420 typ.]	650 typ.	20	
	EZJP0V080KA	5.6	8	330 max. [290 typ.]	480 typ.	15	
	EZJP0V080GA	5.6	8	100 max. [ 65 typ.]	100 typ.	3	
	EZJP0V080DA	5.6	8	27 max. [ 22 typ.]	33 typ.	1	
	EZJZ0V120JA	6.7	12	220 max. [150 typ.]	175 typ.	10	
	EZJZ0V180HA	11	18	150 max. [120 typ.]	140 typ.	10	
	EZJZ0V220HA	13	22	150 max. [100 typ.]	116 typ.	10	
	EZJP0V270EA	16	27	47 max. [ 33 typ.]	37 typ.	4	
	EZJP0V270RA	16	27	20 max. [ 15 typ.]	16.5 typ.	1	
	EZJZ0V420WA	30	42	56 max. [ 40 typ.]	45 typ.	10	
EZJZ0V650DA	40	65	27 max. [ 22 typ.]	33 typ.	5		
0603	EZJZ1V120KA	6.7	12	330 max. [250 typ.]	290 typ.	20	
	EZJZ1V180JA	11	18	220 max. [180 typ.]	210 typ.	20	
	EZJZ1V220JA	13	22	220 max. [160 typ.]	185 typ.	20	
	EZJZ1V270GA	16	27	100 max. [ 85 typ.]	100 typ.	20	
	EZJZ1V270EA	16	27	47 max. [ 33 typ.]	37 typ.	20	
	EZJZ1V270RA	16	27	20 max. [ 15 typ.]	16.5 typ.	3	
	EZJZ1V330GA	26	33	100 max. [ 85 typ.]	100 typ.	20	
	EZJZ1V420FA	30	42	68 max. [ 55 typ.]	63 typ.	15	
	EZJZ1V650DA	40	65	27 max. [ 22 typ.]	33 typ.	5	

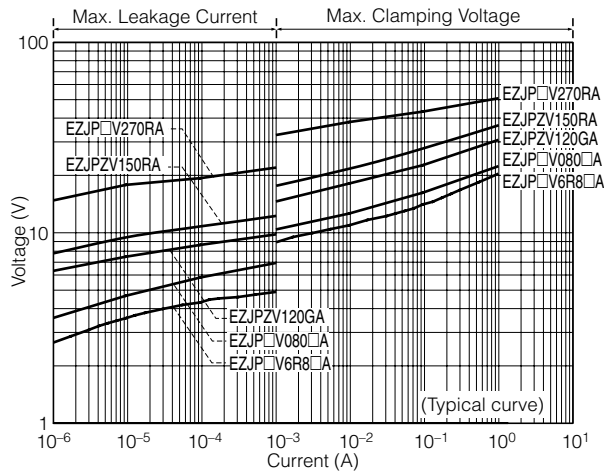
● Operating Temperature Range : -40 to 85 °C \* Recommend soldering method : Reflow soldering

Maximum Allowable Voltage	Maximum DC Voltage that can be applied continuously within the operating temperature range
Varistor Voltage	Varistor starting voltage between terminals at DC 1 mA, also known as Breakdown voltage
Maximum Peak Current	Varistor's maximum current under the standard pulse 8/20μs, 2 times based
Maximum ESD	Varistor's maximum voltage under ESD based on IEC61000-4-2, 10 times (5 times of each positive-negative polarity)

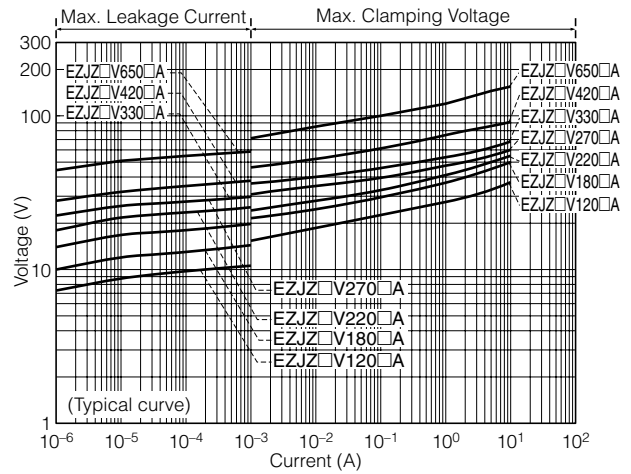
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## ■ Voltage vs. Current

### ● EZJP Series

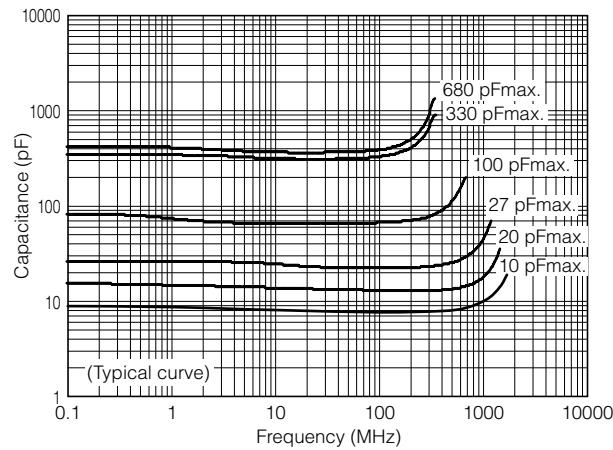


### ● EZJZ Series

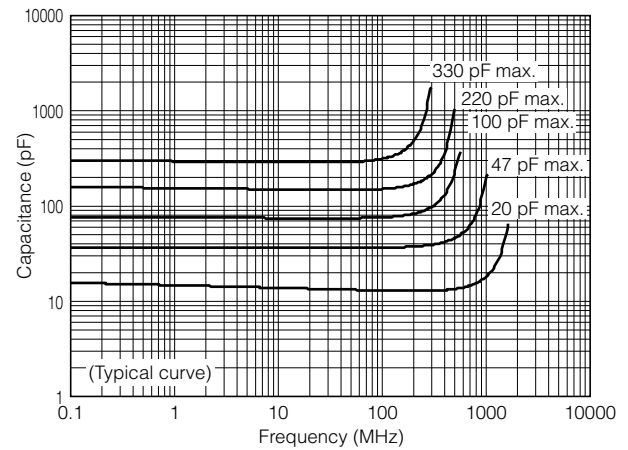


## ■ Frequency vs. Capacitance

### ● EZJP Series

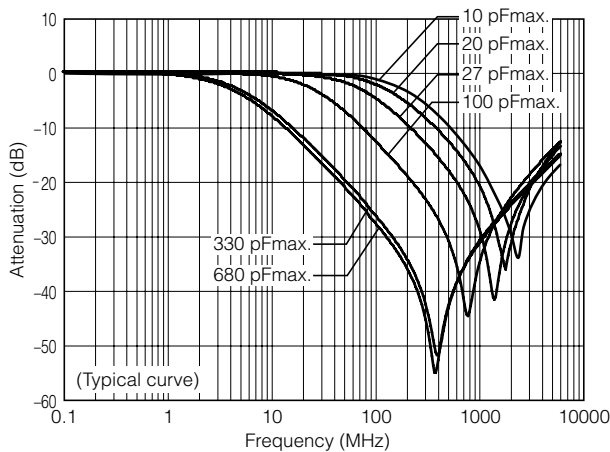


### ● EZJZ Series



## ■ Frequency vs. Transmission

### ● EZJP Series



### ● EZJZ Series

