



Chip Beads (SMD Array) – MZA3216 Series



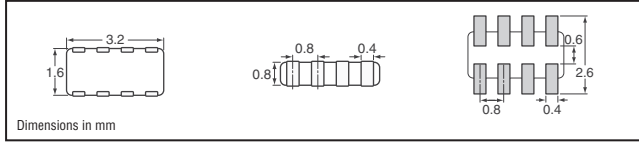
Features: • A single MZA series chip provides noise attenuation for four lines, making it ideal for use with I/O lines of various highly miniaturized devices • Low crosstalk between adjacent circuits • Internal electrodes feature low DC resistance, minimizing wasteful power consumption • Electroplated terminal electrodes accommodate reflow soldering • Monolithic structure ensures high reliability • Contains no lead and also supports lead-free soldering

Operating Temperature Range: -55°C – 125°C

Applications: • Computers • Printers • VCRs • Televisions • Portable telephones • Electronic equipment, such as portable products, which comprise high density circuitry

S Material: For signal line applications in which the blocking region is near 100MHz.

Y Material: High frequency range type intended for the 100MHz region and above. For signal line applications in which the signal frequency is far from the cutoff frequency.



Imp. 100MHz (Ω)±25%	I Max. (A)	Rdc Max. (Ω)	Material	Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Pricing†	TDK Part No.
					10	50	100		
60	0.30	0.2	S	445-3347-1-ND	3.00	12.98	23.96	140.12/M	MZA3216S600A
120	0.25	0.2		445-3348-1-ND	3.00	12.98	23.96	140.12/M	MZA3216S121A
300	0.20	0.4		445-3349-1-ND	3.00	12.98	23.96	140.12/M	MZA3216S301A
600	0.20	0.5		445-3350-1-ND	3.00	12.98	23.96	140.12/M	MZA3216S601A
60	0.30	0.2	Y	445-3351-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y600B
120	0.25	0.2		445-3377-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y121B
240	0.20	0.3		445-3352-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y241B
300	0.20	0.4		445-3378-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y301B
600	0.20	0.5	445-3379-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y601B	
1000	0.15	0.6	445-3380-1-ND	3.00	12.98	23.96	140.12/M	MZA3216Y102B	

† For Tape and Reel part number, change 1-ND to 2-ND.

Ferrite Beads / SMD



MMZ – Digital Signal Line Application MPZ – Power Supply Line Application

MATERIAL CHARACTERISTICS:

A Material: This high-impedance product is based on the impedance frequency characteristics of our Y-material. The product offers excellent impedance characteristics, which is greater than 2500Ω, in the vicinity of 100MHz range (MMZ1608A252B).

B Material: This type is perfectly suited for fast digital signals. By equalizing R components and X components that beads possess at a frequency of 5MHz, it is able to suppress overshooting, undershooting and ringing of fast digital signals.

D Material: For applications calling for low insertion loss at low frequencies and sharply increasing impedance at high frequencies. Designed for high impedance at high frequen-

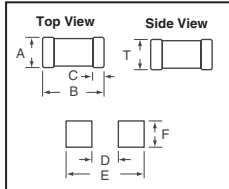
cies (200 – 500MHz) for signal line applications.

F Material: This new product inherits the characteristic of the D Material, namely its sharp impedance rise time, and its impedance peak frequency has been shifted higher into range. The product offers excellent noise suppression from 600MHz to as high as in the GHz range.

R Material: For digital signal line applications.

S Material: For signal line applications in which the blocking region is near 100MHz.

Y Material: High frequency range type intended for the 100MHz region and above. For signal line applications in which the signal frequency is far from the cutoff frequency.



Series	Dimensions - mm						
	A	B	C	D	E	F	T
MMZ0603	0.3	0.6	—	0.3	0.8	0.3	0.3
MMZ1005	0.5	1	0.1	0.5	1.4	0.5	0.5
MPZ1005	0.5	1	0.1	0.5	1.4	0.5	0.5
MMZ1608	0.8	1.6	0.3	0.8	2.0	0.8	0.8
MMZ1608-C	0.8	1.6	0.3	0.8	2.0	0.8	0.6
MPZ1608	0.8	1.6	0.3	0.8	2.0	0.8	0.6*
MMZ2012	1.25	2	0.5	1	3.6	1.2	0.85
MPZ2012	1.25	2	0.5	1	3.6	1.2	0.85

* 220Ω and 600Ω = 0.8

Imp. 100MHz (Ω)±25%	I Max. (A)	Rdc Max. (Ω)	Material	Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Pricing	TDK Part No.	
					10	50	100			
MMZ0603 Series – 0201 Size										
33	0.10	1.0	D	445-2141-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603D330C
56	0.10	1.3		445-2142-1-ND	.99	4.27	7.88	15,000	45.74/M	MMZ0603D560C
80	0.10	1.5		445-2143-1-ND	.99	4.27	7.88	15,000	45.74/M	MMZ0603D800C
10	0.20	0.8	F	445-3334-1-ND	.99	4.27	7.88	15,000	45.74/M	MMZ0603F100C
10	0.50	0.15		445-2141-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603S100C
80	0.20	0.5		445-2142-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603S800C
120	0.20	0.8	S	445-2143-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603S121C
240	0.10	1.0		445-2144-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603S241C
470	0.05	1.8		445-2145-1-ND	1.02	4.39	8.10	15,000	47.19/M	MMZ0603S471C
600	0.05	2.0	445-2146-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603S601C	
120	0.20	0.8	Y	445-2147-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603Y121C
240	0.10	1.0		445-2148-1-ND	1.02	4.39	8.10	15,000	47.19/M	MMZ0603Y241C
470	0.05	1.8		445-2149-1-ND	1.02	4.39	8.10	15,000	47.28/M	MMZ0603Y471C
MMZ1005 Series – 0402 Size										
80	0.45	0.2	B	445-3335-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005B800C
120	0.40	0.25		445-3336-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005B121C
600	0.20	0.85		445-3337-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005B601C
10	0.50	0.1	D	445-3338-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D100C
22	0.40	0.2		445-3339-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D220C
33	0.40	0.35		445-3340-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D330C
68	0.40	0.55	445-3341-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D680C	
120	0.35	0.75	445-3342-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D121C	
240	0.20	1.2	445-3343-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005D241C	

Imp. 100MHz (Ω)±25%	I Max. (A)	Rdc Max. (Ω)	Material	Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Pricing	TDK Part No.	
					10	50	100			
33	0.20	0.6	F	445-3344-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005F330C
47	0.10	0.8		445-3345-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005F470C
56	0.10	0.8		445-3346-1-ND	.41	1.79	3.32	10,000	19.61/M	MMZ1005F560C
80	0.50	0.2	S	445-2159-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005S800C
120	0.50	0.25		445-2160-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005S121C
240	0.40	0.4		445-2161-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005S241C
600	0.30	0.6	445-2162-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005S601C	
1000	0.20	1.0	445-2163-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005S102C	
40	0.55	0.12	Y	445-2150-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y400C
80	0.45	0.17		445-2151-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y800C
120	0.40	0.21		445-2152-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y121C
240	0.30	0.33	445-2153-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y241C	
300	0.25	0.38	445-2154-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y301C	
470	0.25	0.5	445-2155-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y471C	
600	0.25	0.56	445-2156-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y601C	
1000	0.20	0.74	445-2157-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y102C	
1500	0.10	1.15	445-2158-1-ND	.43	1.84	3.40	10,000	19.88/M	MMZ1005Y152C	

MPZ1005 Series – 0402 Size										
10	2.0	.045	S	445-2978-1-ND	.44	1.90	3.51	10,000	20.33/M	MPZ1005S100C
30	1.7	.050		445-2979-1-ND	.44	1.90	3.51	10,000	20.33/M	MPZ1005S300C
60	1.5	.075		445-2980-1-ND	.44	1.90	3.51	10,000	20.33/M	MPZ1005S600C
120	1.2	.090		445-2981-1-ND	.44	1.90	3.51	10,000	20.33/M	MPZ1005S121C

MMZ1608 Series – 0603 Size										
15	1.5	0.05	R	445-2180-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R150A
30	1.5	0.05		445-2181-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R300A
60	1.5	0.18		445-2182-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R600A
120	0.5	0.25		445-2171-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R121A
300	0.5	0.4	445-1547-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R301A	
600	0.5	0.4	445-1548-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R601A	
1000	0.4	0.5	445-1549-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608R102A	
40	0.6	0.1	S	445-2183-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S400A
80	0.5	0.15		445-2172-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S800A
120	0.5	0.2		445-2173-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S121A
180	0.5	0.2		445-2174-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S181A
300	0.5	0.3	445-2175-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S301A	
600	0.5	0.4	445-1549-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S601A	
1000	0.4	0.5	445-1550-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608S102A	

MMZ1608-C Series – 0603 Size										
15	1.5	0.05	Y	445-2184-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y150B
30	1.5	0.05		445-2185-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y300B
60	0.5	0.15		445-2186-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y600B
120	0.5	0.2		445-2176-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y121B
300	0.5	0.3	445-2177-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y301B	
600	0.5	0.4	445-1551-1-ND	.38	1.66	3.06	4,000	17.83/M	MMZ1608Y601B	
1000	0.4	0.5	445-1552-1-ND	.38	1.66	3.06	4,00			