



### 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 (MMZ1608A25B).

**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-

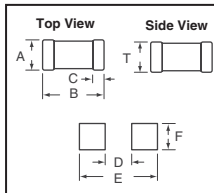
cies (200 ~ 500MHz) for signal line applications.

**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 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	0.4	1.4	0.5	0.5
MPZ1005	0.5	1	0.1	0.4	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	2.6	1.2	0.85
MPZ2012	1.25	2	0.5	1	2.6	1.2	0.85

\* 220Ω, 330Ω, 470Ω and 600Ω - 0.8

Imp. 100MHz (Ω)±25%	Rdc Max. (Ω)	I Max. (A)	Material	Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Qty.	Tape and Reel Pricing	TDK Part No.
					10	50	100			
<b>MMZ0603 Series - 0201 Size</b>										
10	0.12	.500	S	445-2141-1-ND\$	1.12	4.84	8.94	15,000	52.15/M	MMZ0603S100C
80	0.37	.200	S	445-2142-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603S800C
120	0.45	.200	S	445-2143-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603S121C
240	0.75	.200	S	445-2144-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603S241C
470	1.30	.100	S	445-2145-1-ND	1.12	4.84	8.94	15,000	52.06/M	MMZ0603S471C
600	1.45	.100	S	445-2146-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603S601C
120	0.75	.200	Y	445-2147-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603Y121C
240	0.85	.100	Y	445-2148-1-ND	1.12	4.84	8.94	—	—	MMZ0603Y241C
470	1.40	.050	Y	445-2149-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603Y471C
33	0.85	.100	D	445-2140-1-ND	1.12	4.84	8.94	15,000	52.15/M	MMZ0603D330C
56	1.05	.100	D	445-3332-1-ND	1.09	4.71	8.70	15,000	50.46/M	MMZ0603D560C
80	1.40	.100	D	445-3333-1-ND	1.09	4.71	8.70	—	—	MMZ0603D800C
10	0.60	.200	F	445-3334-1-ND\$	1.09	4.71	8.70	15,000	50.46/M	MMZ0603F100C
<b>MMZ1005 Series - 0402 Size</b>										
80	0.20	.450	B	445-3335-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005B800C
120	0.25	.400	B	445-3336-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005B121C
600	0.85	.200	B	445-3337-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005B601C
80	0.20	.500	S	445-2159-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005S800C
120	0.25	.500	S	445-2160-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005S121C
240	0.40	.400	S	445-2161-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005S241C
600	0.60	.300	S	445-2162-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005S601C
1000	1.00	.200	S	445-2163-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005S102C
40	0.12	.550	Y	445-2150-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y400C
80	0.17	.450	Y	445-2151-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y800C
120	0.21	.400	Y	445-2152-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y121C
240	0.33	.300	Y	445-2153-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y241C
300	0.38	.250	Y	445-2154-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y301C
470	0.50	.250	Y	445-2155-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y471C
600	0.56	.250	Y	445-2156-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y601C
1000	0.74	.200	Y	445-2157-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y102C
1500	1.15	.100	Y	445-2158-1-ND	.47	2.03	3.76	10,000	21.92/M	MMZ1005Y152C
22	0.35	.400	D	445-3339-1-ND	.46	1.98	3.66	—	—	MMZ1005D220C
33	0.55	.400	D	445-3340-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005D330C
68	0.75	.400	D	445-3341-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005D680C
120	1.20	.350	D	445-3342-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005D121C
240	0.60	.200	D	445-3343-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005D241C
33	0.80	.200	F	445-3344-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005F330C
47	0.80	.100	F	445-3345-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005F470C
56	0.20	.100	F	445-3346-1-ND	.46	1.98	3.66	10,000	21.63/M	MMZ1005F560C
<b>MPZ1005 Series - 0402 Size</b>										
10	0.045	2.0	S	445-2978-1-ND\$	.48	2.10	3.87	10,000	22.43/M	MPZ1005S100C
30	0.050	1.7	S	445-2979-1-ND▲	.48	2.10	3.87	10,000	22.43/M	MPZ1005S300C
60	0.075	1.5	S	445-2980-1-ND	.48	2.10	3.87	10,000	22.43/M	MPZ1005S600C
120	0.090	1.2	S	445-2981-1-ND	.48	2.10	3.87	10,000	22.43/M	MPZ1005S121C
<b>MMZ1005-E Series - 0402 Size</b>										
600	0.70	.300	S	445-5194-1-ND	1.39	5.99	11.05	10,000	64.87/M	MMZ1005E601E
1000	1.10	.250	S	445-5195-1-ND	1.39	5.99	11.05	10,000	64.87/M	MMZ1005S102E
600	0.85	.300	A	445-5196-1-ND	1.39	5.99	11.05	10,000	64.87/M	MMZ1005A601E
1000	1.25	.250	A	445-5197-1-ND	1.39	5.99	11.05	10,000	64.87/M	MMZ1005A102E
1800	2.20	.200	A	445-5198-1-ND	1.39	5.99	11.05	10,000	64.87/M	MMZ1005A182E
<b>MMZ1608 Series - 0603 Size</b>										
15	0.05	1.5	R	445-2180-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R150A
30	0.05	1.5	R	445-2181-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R300A
60	0.10	800	R	445-2182-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R600A
120	0.18	500	R	445-2170-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R121A
300	0.25	500	R	445-2171-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R301A
600	0.40	500	R	445-1547-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R601A
1000	0.50	400	R	445-1548-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608R102A
40	0.10	600	S	445-2183-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S400A
80	0.15	500	S	445-2172-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S800A
120	0.20	500	S	445-2173-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S121A
180	0.20	500	S	445-2174-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S181A
300	0.30	500	S	445-2175-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S301A
600	0.40	500	S	445-1549-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S601A
1000	0.50	400	S	445-1550-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608S102A
15	0.05	1.5	Y	445-2184-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y150B
30	0.05	1.5	Y	445-2185-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y300B
60	0.15	500	Y	445-2186-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y600B
120	0.20	500	Y	445-2176-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y121B

Imp. 100MHz (Ω)±25%	Rdc Max. (Ω)	I Max. (A)	Material	Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Qty.	Tape and Reel Pricing	TDK Part No.
					10	50	100			
300	0.30	.500	Y	445-2177-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y301B
600	0.40	.500	Y	445-1551-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y601B
1000	0.50	.400	Y	445-1552-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y102B
1500	0.60	.300	Y	445-1553-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608Y152B
1500	1.0	.300	A	445-2178-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608A152E
2500	0.80	.200	A	445-2179-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608A252B
80	0.35	.500	D	445-2167-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608D800B
120	0.45	.400	D	445-2168-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608D121B
300	0.70	.300	D	445-2169-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ1608D301B
<b>MMZ1608-C Series - 0603 Size</b>										
120	0.15	.600	B	445-2164-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ16088121C
300	0.25	.500	B	445-2165-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ16088301C
600	0.40	.500	B	445-2166-1-ND	.42	1.83	3.37	4,000	19.67/M	MMZ16088601C
<b>MPZ1608 Series - 0603 Size</b>										
470	0.150	1.0	B	445-5218-1-ND	.43	1.89	3.48	4,000	20.32/M	MPZ16088471A
30	0.01									