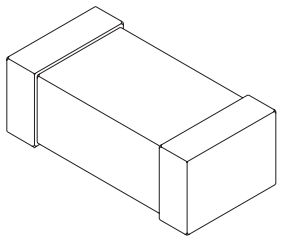
Surface Mount Chip EMI Suppressors

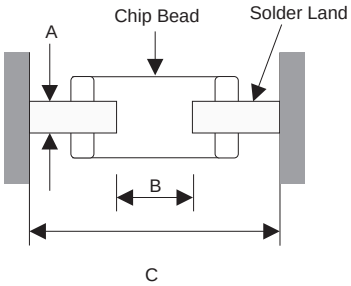
MB0603, MB0805 Series



General Specifications

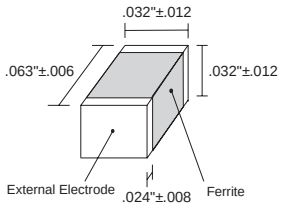
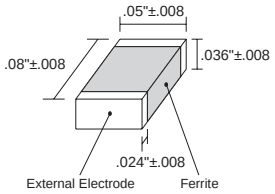
Impedance Range:	7 Ohms to 1000 Ohms
Storage Temp:	-40°C to + 85°C
Operating Temp:	-25°C to + 85°C
Resistance to Solder Heat:	260°C, 10 Seconds
Resistance to Solvent:	Per MIL-STD-202F

RECOMMENDED PRINTED CIRCUIT BOARD PATTERNS

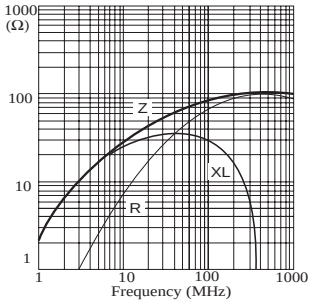


	A	B	C
MB0603	0.028 inches	0.028 inches	0.071 ~ 0.079 inches
MB0805	0.039 inches	0.039 inches	0.118 ~ 0.157 inches

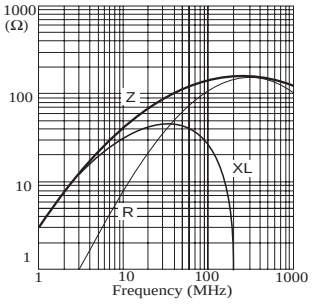
Pattern Solder Resist

Description	Part Number	Impedance Z (Ω) ± 25% at 100MHZ	Resistance Rdc. Max. (Ω)	Rating Current Max (mA)
	MB0603-800	80	0.2	250
	MB0603-121	120	0.2	150
	MB0603-301	300	0.35	150
	MB0805-110	11	0.1	300
	MB0805-121	120	0.18	300
	MB0805-301	300	0.50	200
	MB0805-601	600	0.50	200
	MB0805-102	1000	0.8	100

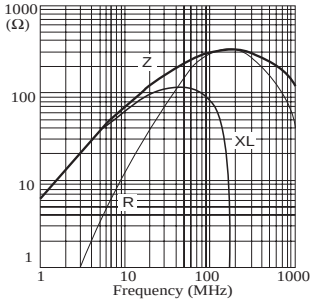
MB0603-800



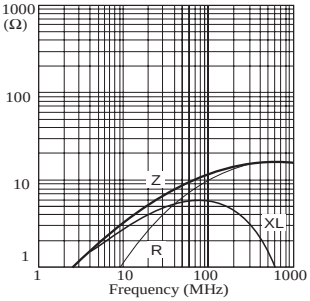
MB0603-121



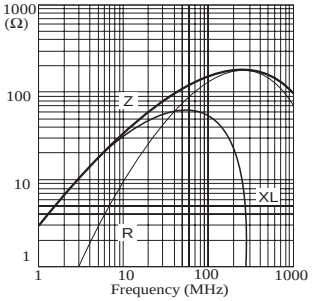
MB0603-301



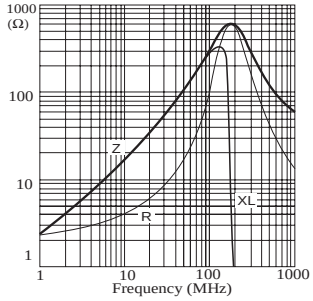
MB0805-110



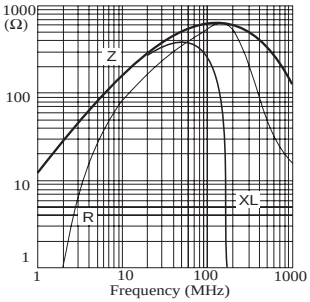
MB0805-121



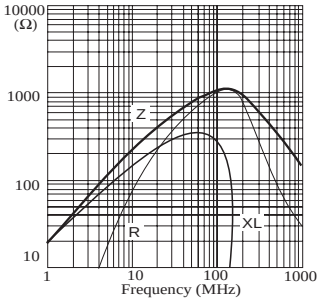
MB0805-301



MB0805-601

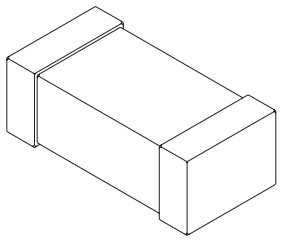


MB0805-102



Surface Mount Chip EMI Suppressors

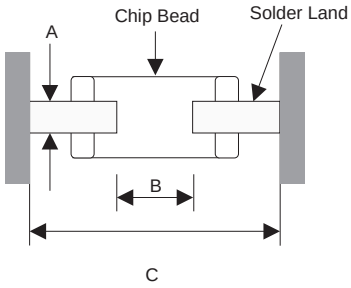
MB1206, MB1210 Series • Surface Mount Chip EMI Suppressors



General Specifications

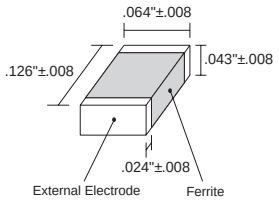
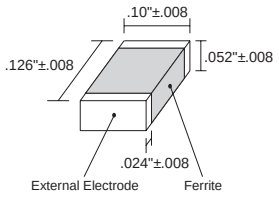
Impedance Range:	7 Ohms to 1000 Ohms
Storage Temp:	-40°C to + 85°C
Operating Temp:	-25°C to + 85°C
Resistance to Solder Heat:	260°C, 10 Seconds
Resistance to Solvent:	Per MIL-STD-202F

RECOMMENDED PRINTED CIRCUIT BOARD PATTERNS



	A	B	C
MB1206	0.047 inches	0.079 inches	0.165 ~ 0.205 inches
MB1210	0.047 inches	0.079 inches	0.165 ~ 0.205 inches

Pattern Solder Resist

Description	Part Number	Impedance Z (Ω) ± 25% at 100MHZ	Resistance Rdc. Max. (Ω)	Rating Current Max (mA)
	MB1206-190	19	.04	3000
	MB1206-310	31	.04	3000
	MB1206-520	52	.05	3000
	MB1206-700	70	.05	3000
	MB1206-151	150	0.2	1000
	MB1206-601	600	0.5	1000
	MB1206-102	1000	0.5	200
	MB1210-310	31	.05	3000
	MB1210-600	60	.05	3000

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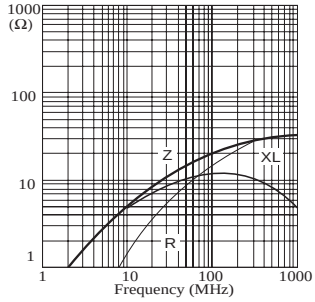
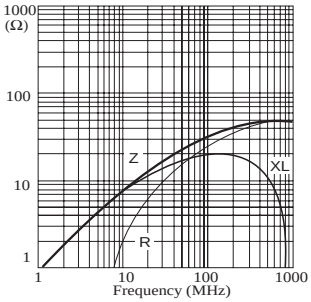
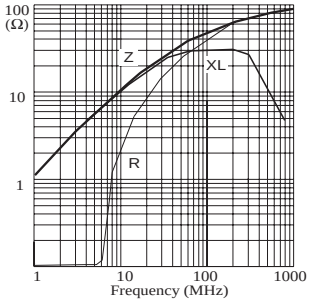
MB1206-190



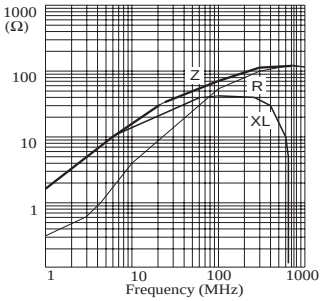
MB1206-310



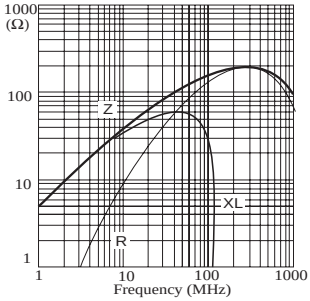
MB1206-520



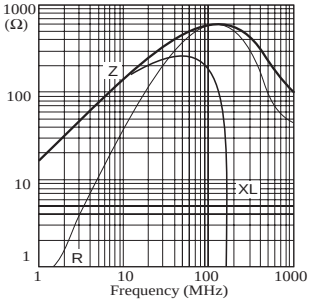
MB1206-700



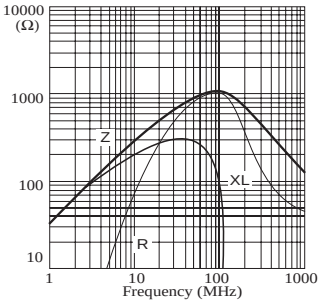
MB1206-151



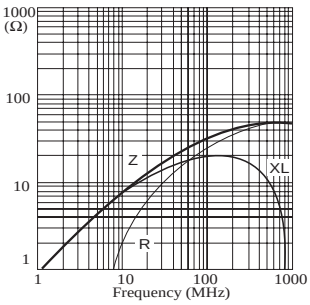
MB1206-601



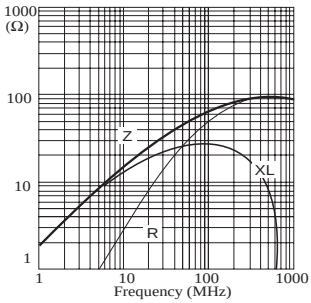
MB1206-102



MB1210-310

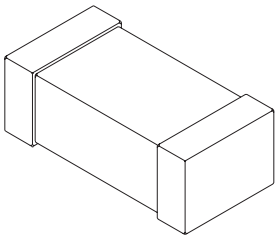


MB1210-600



Surface Mount Chip EMI Suppressors

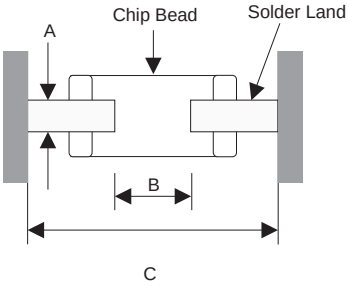
MB1806, MB1812 Series • Surface Mount Chip EMI Suppressors



General Specifications

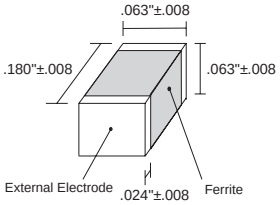
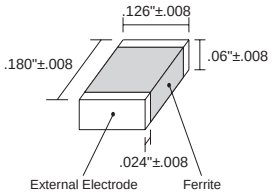
Impedance Range:	7 Ohms to 1000 Ohms
Storage Temp:	-40°C to + 85°C
Operating Temp:	-25°C to + 85°C
Resistance to Solder Heat:	260°C, 10 Seconds
Resistance to Solvent:	Per MIL-STD-202F

RECOMMENDED PRINTED CIRCUIT BOARD PATTERNS

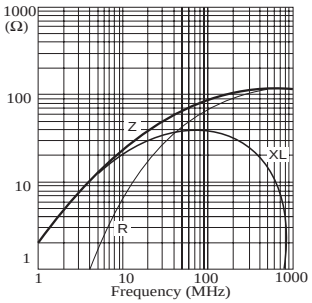


	A	B	C
MB1806	0.047 inches	0.118 inches	0.217 ~ 0.256 inches
MB1812	0.047 inches	0.118 inches	0.217 ~ 0.256 inches

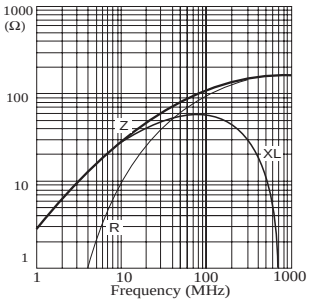
Pattern Solder Resist

Description	Part Number	Impedance Z (Ω) ± 25% at 100MHZ	Resistance Rdc. Max. (Ω)	Rating Current Max (mA)
	MB1806-800	80	0.1	6000
	MB1806-101	100	0.1	6000
	MB1806-151	150	0.3	6000
	MB1812-700	70	0.1	6000
	MB1812-121	120	0.1	6000
	MB1812-131	125	0.1	6000
	MB1812-152	1500	0.05	6000

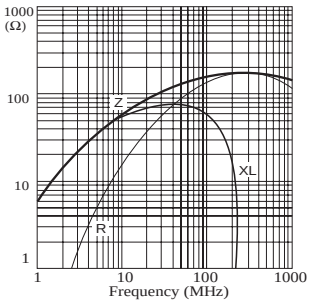
MB1806-800



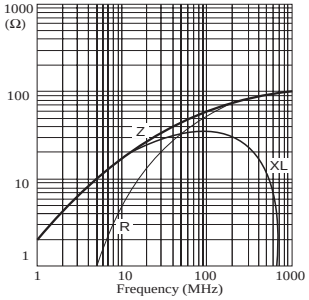
MB1806-101



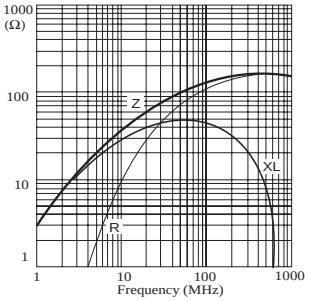
MB1806-151



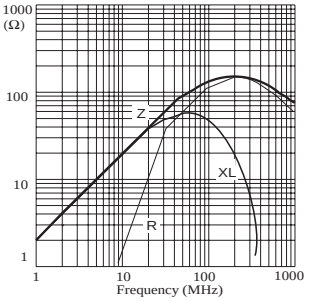
MB1812-700



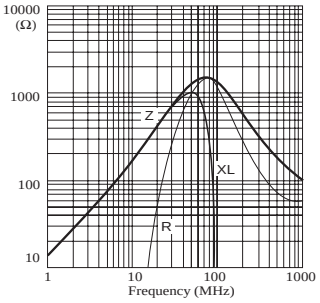
MB1812-121



MB1812-131

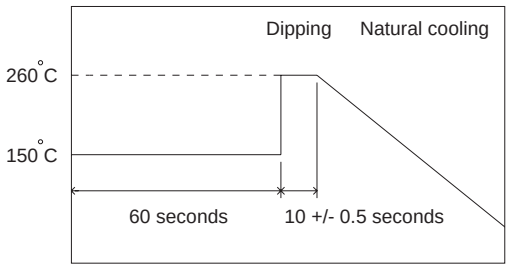
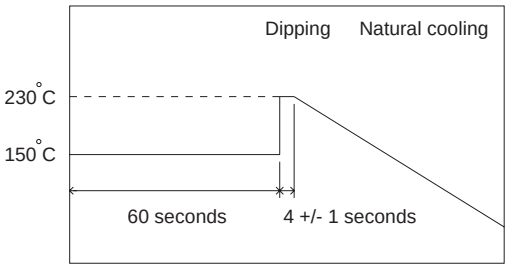
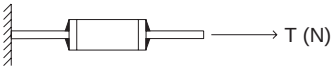


MB1812-152



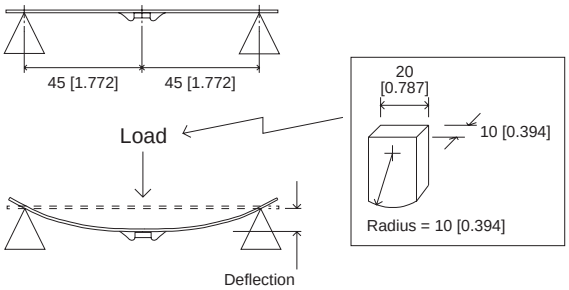
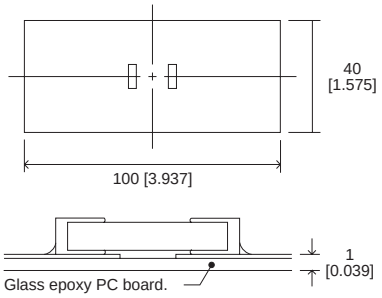
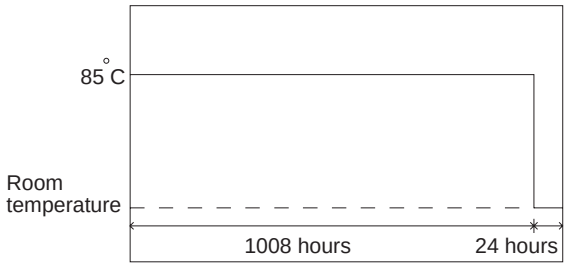
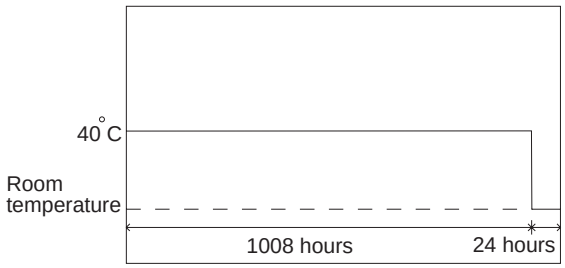
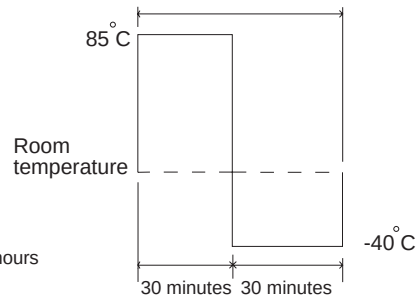
Surface Mount Chip EMI Suppressors

Performance and Test Conditions

Criteria	Performance	Parameters
Operating temperature range	-25 to +85°C	
Storage temperature and humidity ranges	40°C max., 70% RH max.	
Soldering heat resistance	No cracking of the chip may occur. Solder must cover greater than 75% of the total surface area of the terminal electrode. Impedance must be within +/- 20% of the initial value.	Preheat: 150°C, 60 seconds Solder: H63A Solder temperature: 260 +/- 5°C Flux: Resin Dip time: 10 +/- 0.5 seconds 
Solderability	New solder must cover greater than 90% of the total surface area of the terminal electrode.	Preheat: 150°C, 60 seconds Solder: H63A Solder temperature: 230 +/- 5°C Flux: Rosin Dip time: 4 +/- 1 seconds 
Pull strength	The terminal electrode and the ferrite shall not be damaged by the tensile forces applied by the conditions shown.	After soldering a lead wire to a terminal electrode, apply a tensile force, T, in the direction shown.  Size Code / T (N) MB0603 / 4.9 MB0805 / 5.9 MB1206 / 9.8 MB1210 / 9.8 MB1806 / 9.8 MB1812 / 14.7
Low temperature storage life test	Chipping, cracking or any other physical defects which are harmful to the electrical characteristics shall not be allowed. Impedance must be within +/- 20% of the initial value.	Temperature: -40 +/- 2°C Testing time: 1008 +/- 12 hours Measurement taken after placing for 24 hours minimum.

Surface Mount Chip EMI Suppressors

Performance and Test Conditions

Criteria	Performance	Parameters
Flexural strength	The terminal electrode and the ferrite shall not be damaged by the forces applied by the conditions shown.  	After soldering a chip to the center of a test substrate, deflect the midpoint of the substrate by 2mm (0.079 inches) and allow it to return to the initial position. Soldering shall be done in accordance with the recommended PC board pattern and reflow soldering. 
High Temperature Resistance	The physical appearance of the ferrite shall not be damaged. Impedance must be within +/- 20% of the initial value.	Temperature: 85 +/- 2°C Applied current: Rated current (maximum value) Testing time: 1008 +/- 12 hours Measurement taken after placing for 24 hours minimum. 
Humidity Resistance	The physical appearance of the ferrite shall not be damaged. Impedance must be within +/- 20% of the initial value.	Humidity: 90 to 95% RH Temperature: 40 +/- 2°C Applied Current (maximum value) Testing time: 1008 +/- 12 hours Measurement taken after placing for 24 hours minimum. 
Thermal Shock	Chipping, cracking or any other physical defects which are harmful to the electrical characteristics shall not be allowed. Impedance must be within +/- 20% of the initial value.	Temperature: -40°C, +85°C, kept steady for 30 minutes each. Cycle: 100 cycles  Measurement taken after placing for 24 hours minimum.

Tape Dimensions

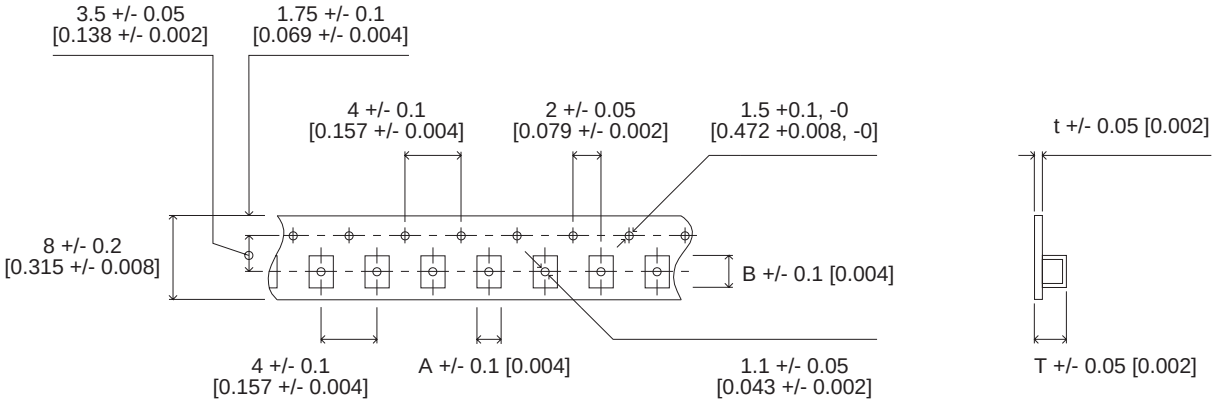


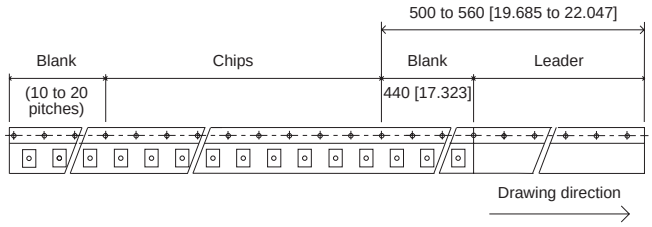
Fig. 1

Rev. 97001

TAPE DIMENSIONS

Size Code	A	B	T	t	Fig.
MB0603	1.1 [0.043]	1.9 [0.075]	1.1 [0.043]	0.3 [0.012]	1
MB0805	1.55 [0.061]	2.3 [0.091]	1.2 [0.047]	0.3 [0.012]	1
MB1206	1.9 [0.075]	3.5 [0.138]	1.4 [0.055]	0.3 [0.012]	1
MB1210	2.9 [0.114]	3.6 [0.142]	1.7 [0.067]	0.3 [0.012]	1
MB1806	1.9 [0.075]	4.9 [0.193]	1.8 [0.072]	0.3 [0.012]	2
MB1812	3.6 [0.142]	4.9 [0.193]	2.05 [0.081]	0.3 [0.012]	2

Dimensions in mm [inches].



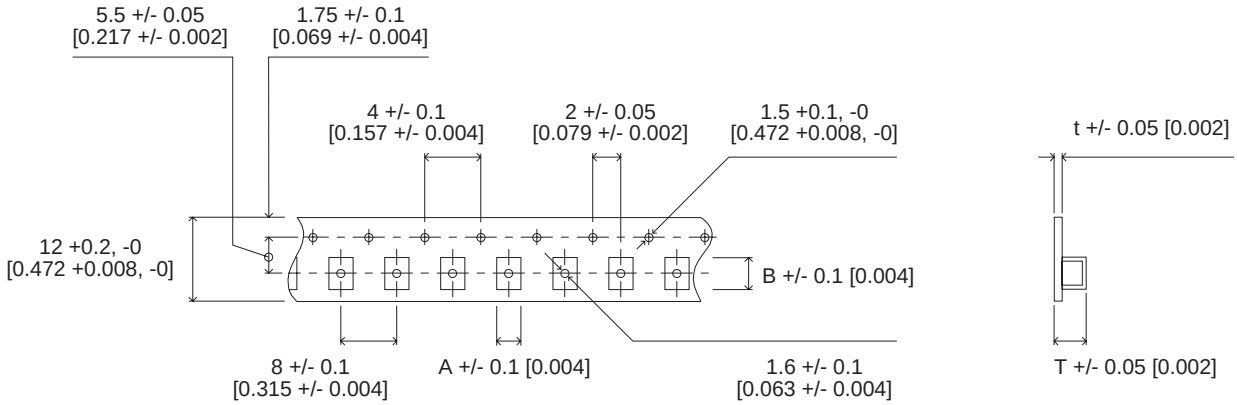


Fig. 2

Surface Mount Chip EMI Suppressors

Cross Reference Guide

Description	TSC	Murata	TDK	DW Steward	ACT	Taiyo Yueden
0603, 68Ω	MB0603-680					BK 1608 LL 680
0603, 75Ω	MB0603-750	BLM11B750D				
0603, 120Ω	MB0603-121	BLM11A121S	ACB1608M-120			
0603, 140Ω	MB0603-141	BLM11B141D				
0603, 220Ω	MB0603-221	BLM11A221S				
0603, 240Ω	MB0603-241					BK 1608 HS 241
0603, 300Ω	MB0603-301		ACB1608M-300			
0603, 420Ω	MB0603-421	BLM11B421S				
0603, 470Ω	MB0603-471					BK 1608 HM 471
0603, 600Ω	MB0603-601	BLM11A601S				BK 1608 HS 601
0603, 750Ω	MB0603-751					BK 1608 LM 751
0603, 1000Ω	MB0603-102	BLM11B102S				BK 1608 HM 102
0603, 1500Ω	MB0603-152					BK 1608 LM 152
0603, 1800Ω	MB0603-182					BK 1608 LM 182
0805, 5Ω	MB0805-050	BLM21B050S				
0805, 7Ω	MB0805-070		HF30ACB201209			
0805, 10Ω	MB0805-100		HF70ACB201209			
0805, 11Ω	MB0805-110		HF50ACB201209	25Z0805.0S0		
0805, 11Ω, hc	MB0805-110		HF50ACC201209			
0805, 12Ω	MB0805-120				BCB-0805	
0805, 15Ω	MB0805-150					BK 2125 HS 150
0805, 17Ω	MB0805-170					
0805, 22Ω	MB0805-220					BK 2125 HS 220
0805, 33Ω	MB0805-330					BK 2125 HS 330
0805, 47Ω	MB0805-470					BK 2125 HS 470
0805, 56Ω	MB0805-560					BK 2121 LL 560
0805, 75Ω	MB0805-750					BK 2121 HS 750
0805, 80Ω	MB0805-800					
0805, 100Ω	MB0805-101					BK 2125 HS 101
0805, 120Ω	MB0805-121	BLM21A121S		25Z0805-1S0	KCB-0805	BK 2125 HS 121
0805, 200Ω	MB0805-201	BLM21B201S				
0805, 240Ω	MB0805-241					BK 2125 HS 241
0805, 400Ω	MB0805-401	BLM21A401S				
0805, 430Ω	MB0805-431					BK 2121 HS 431
0805, 470Ω	MB0805-471					BK 2125 HM 471
0805, 600Ω	MB0805-601	BLM21A601S			LCB-0805	BK 2125 HS 601
0805, 750Ω	MB0805-750	BLM21B751S				
0805, 1000Ω	MB0805-102	BLM21A102S				BK2125 HM 102
0805, 1500Ω	MB0805-152					BK2125 LM 152
0805, 1800Ω	MB0805-182					BK2125 LM 182
0805, 2200Ω	MB0805-222	BLM21B222S				
1206, 19Ω	MB1206-190		HF30ACB321611		DCB-1206	
1206, 19Ω, hc	MB1206-190		HF30ACC321611			
1206, 26Ω	MB1206-260	BLM31A206S	HF70ACB321611		ACB-1206	
1206, 26Ω, hc	MB1206-260		HF70ACC321611			
1206, 31Ω	MB1206-310		HF50ACB321611	25Z1206.0S0	BCB-1206	
1206, 31W, hc	MB1206-310		HF50ACC321611			
1206, 60Ω	MB1206-600					
1206, 70Ω	MB1206-700	BLM31A700S				
1206, 90Ω	MB1206-900					
1206, 100Ω	MB1206-101			25Z1206.1S0		
1206, 150Ω	MB1206-151					
1206, 600Ω	MB1206-601	BLM31A601S			KCB-1206	
1206, 1000Ω	MB1206-102					
1266, 70Ω	MB1266-700					
1210, 31Ω	MB1210-310		HF30ACB322513			
1210, 31Ω, hc	MB1210-310		HF50ACC322513			
1210, 52Ω	MB1210-520		HF70ACB322513			
1210, 55Ω	MB1210-550				ACB-1210	
1210, 60Ω	MB1210-600		HF50ACB322513	25Z1210.0S0		
1210, 60Ω, hc	MB1210-600		HF50ACC322513			
1210, 65Ω	MB1210-650				BCB-1210	
1210, 80Ω, hc	MB1210-800					
1210, 100Ω	MB1210-101					
1806, 45Ω	MB1806-450				ACB-1806	
1806, 68Ω	MB1806-680				BCB-1806	
1806, 80Ω	MB1806-800	BLM41A400S				
1806, 100Ω	MB1806-101			25Z1806-1S0		
1806, 105Ω	MB1806-1050					
1806, 150Ω	MB1806-151	BLM41A151S		25Z1806.0S0		
1806, 170Ω	MB1806-171				KCB-1806	
1812, 70Ω	MB1812-700		HF30ACB453215			
1812, 120Ω	MB1812-121		HF70ACB453215		ACB-1812	
1812, 125Ω	MB1812-131		HF50ACB453215	25Z1812.0S0	BCB-1812	