

MNT 12

High Temperature 200°C "T" Series
COG (NPO) RF/Microwave Multilayer Capacitors

Features

- Capacitance Range: 0.1pF to 5100pF
- Operating Temperature: -55°C to 200°C
- Rated Voltage: 50V, 150V and 250V
- High Q
- Ultra-Stable Performance
- Low ESR/ESL
- High Self-Resonance
- Encapsulation Option for Leadless MNT 12 Series
- Lead Options (See Page 42)

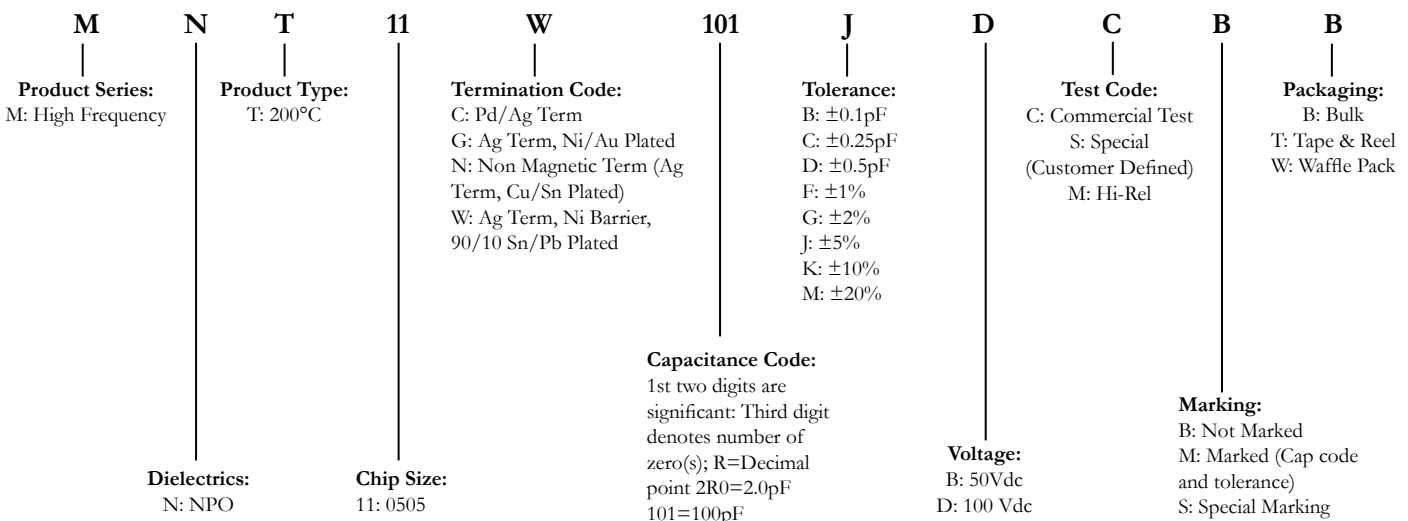


MNT12 series is high temperature RF/Microwave capacitors incorporating an ultra-stable COG (NPO) dielectric system. These capacitors are designed for continuous operating at 200°C, are low loss, high insulation resistance, and exhibit little change in capacitance over the operating temperature range. The MNT12 Series is available in voltages from 50 to 250 volts. High-reliability and burn-in testing is available as options. This Series can be supplied compliant to the EU's **RoHS** standard.

Applications

Typical Functional Applications: Bypass, Coupling, Tuning, Feedback, Impedance Matching and DC Blocking. Devices such as RF oscillators and precision timing circuits requiring a predictable temperature coefficient are examples of devices utilizing these capacitors.

AFM Part Number Code

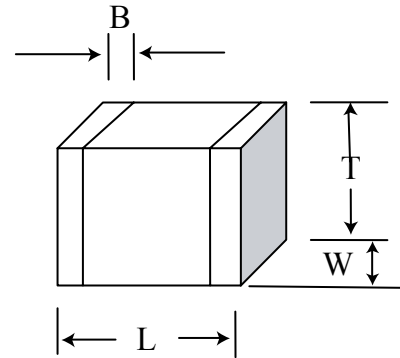


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Chip Dimensions

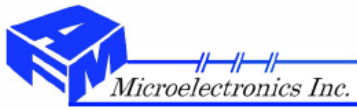
Length	.110in (2.79mm)
Width	.110in (2.79mm)
Thickness	.102in (2.59mm)
Band	.015in (0.38mm)



Standard Capacitance Values

*STD.: Standard Voltage; EXT.: Extended Voltage

CAP CODE	CAP (pF)	TOL	RATED WVdc		CAP CODE	CAP (pF)	TOL	RATED WVdc		CAP CODE	CAP (pF)	TOL	RATED WVdc		CAP CODE	CAP (pF)	TOL	RATED WVdc								
			STD.*	EXT.*				STD.	EXT.				STD.	EXT.				STD.	EXT.							
0R1	0.1	B	500	1500	3R3	3.3	B, C, D	500	1500	360	36	F, G, J, K, M	500	1500	391	390	F, G, J, K, M	50	N/A							
0R2	0.2				3R6	3.6				390	39				431	430				200						
0R3	0.3	B, C			3R9	3.9				430	43				511	510				100						
0R4	0.4				4R3	4.3				470	47										561	560				
0R5	0.5	B, C, D			4R7	4.7				510	51				500	1000				50						
0R6	0.6				5R1	5.1				560	56										621	620				
0R7	0.7				5R6	5.6				620	62										681	680	50			
0R8	0.8				6R2	6.2				680	68													751	750	
0R9	0.9				B, C, D	6R8				6.8	750										75	300	N/A	50		
1R0	1.0					7R5				7.5	820										82				821	820
1R1	1.1					8R2				8.2	910										91					
1R2	1.2					9R1				9.1	101										100				112	1100
1R3	1.3		B, C, D	100		10	111	110	500	1500	F, G, J, K, M	N/A														
1R4	1.4			110		11	121	120					122	1200												
1R5	1.5			120		12	131	130									152	1500								
1R6	1.6			130		13	151	150					182	1800												
1R7	1.7	150		15		161	160	222							2200											
1R8	1.8	B, C, D		160		16	181						180	300		N/A	50									
1R9	1.9			180		18	201	200					302		3000											
2R0	2.0			200		20	221	220										332	3300							
2R1	2.1			220	22	241	240	392					3900													
2R2	2.2			240	24	271	270								472			4700								
2R4	2.4			270	27	301	300	512					5100													
2R7	2.7			300	30	331	330								200			N/A								
3R0	3.0		330	33	361	360	200	N/A																		



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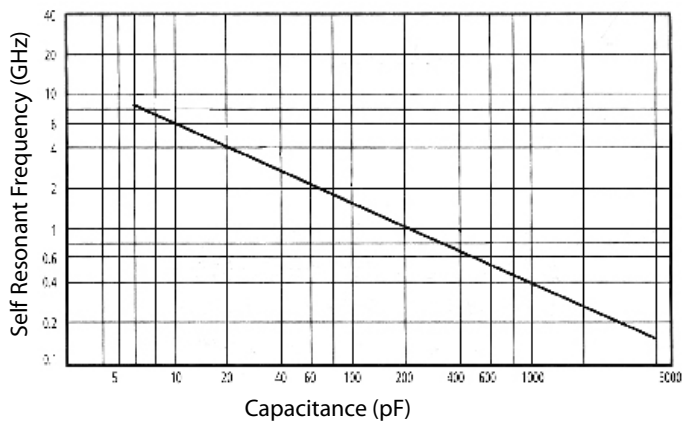
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Specification and Performance

Piezoelectric and Aging Effects:	None
Temperature Range:	-55°C to +200°C
Temperature Coefficient of Capacitance:	0±30ppm/°C
Quality Factor (Q):	<200pF at 1 MHz >10k ≥200pF to 1000pF at 1 MHz >1k
Insulation Resistance (IR, at Rated Voltage):	>10 ⁵ MΩ at 25°C >10 ⁴ MΩ at 200°C
Dielectric Withstand Voltage (DWV):	200% of Rated Voltage
Capacitance Drift:	±0.02% or 0.02 pF

Performance Curve

Self Resonant Frequency vs. Capacitance



Q vs. Temperature

