

# MPT 12

High Temperature 200°C "T" Series  
Porcelain RF/Microwave Multilayer Capacitors

## Features

- Capacitance Range: 0.1pF to 1000pF
- Operating Temperature: -55°C to 200°C
- Rated Voltage: 50V to 300V
- Low Noise
- Low ESR/ESL
- High Self-Resonance

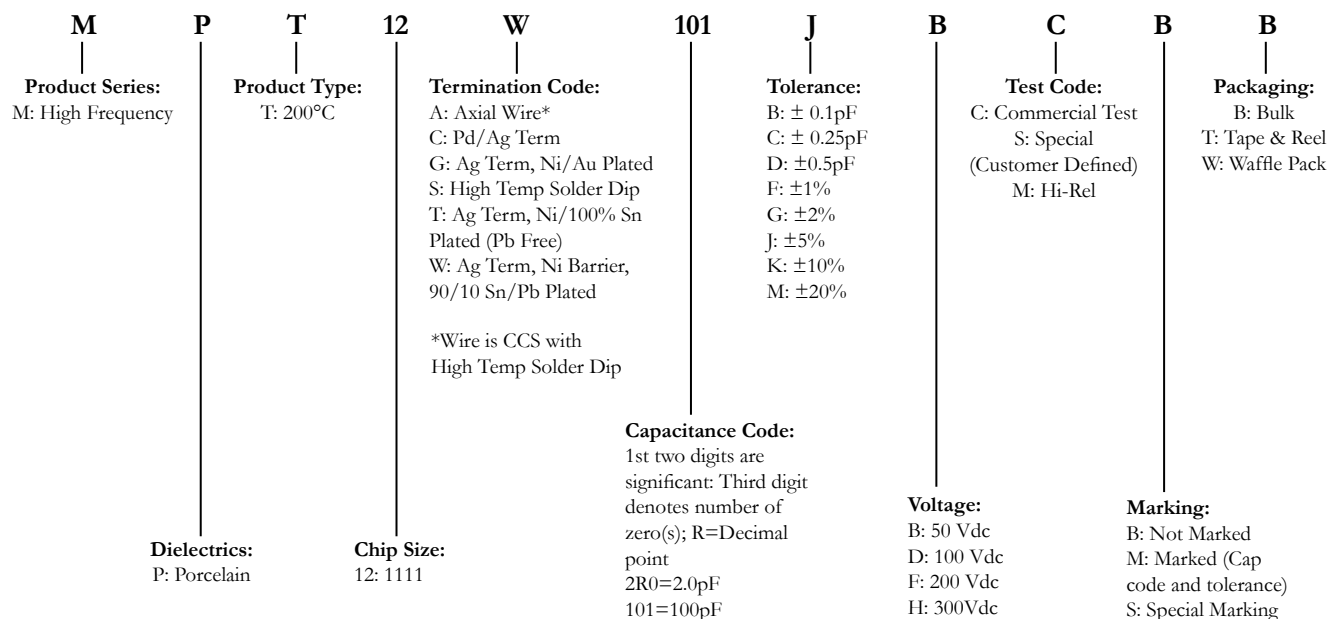


The MPT series is high temperature, high frequency capacitors that is now available with an extended operating temperature up to 200°C. The MPT12 Series is available with a rated voltage from 50 volts to 300 volts based on capacitance value. Leaded capacitors are available as AFM HPT Series and are encapsulated to protect capacitors from contaminants that may be experienced due to severe environmental conditions. This Series can be supplied compliant to the EU's RoHS standard.

## Applications

Typical functional applications include oil, natural gas and geothermal exploration equipment; high temperature engine controls and sensors and any other applications having severe environments.

## AFM Part Number Code

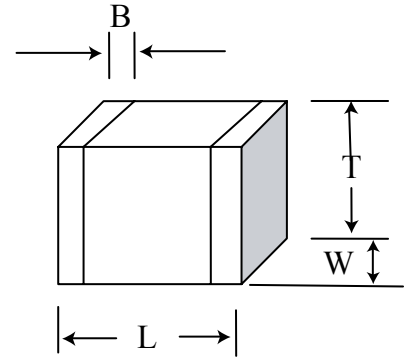


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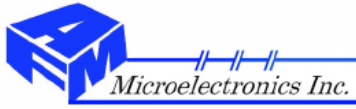
## Chip Dimensions

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



## Standard Capacitance Values

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
0R1	0.1	B	300	2R4	2.4	F, G, J, K, M	300	180	18	F, G, J, K, M	300	131	130		200
0R2	0.2			2R7	2.7			200	20			151	150		
0R3	0.3	B, C		3R0	3.0			220	22			161	160		
0R4	0.4			3R3	3.3			240	24			181	180		
0R5	0.5	B, C, D		3R6	3.6			270	27			201	200		
0R6	0.6			3R9	3.9			300	30			221	220		
0R7	0.7			4R3	4.3			330	33			241	240		
0R8	0.8			4R7	4.7			360	36			271	270		
0R9	0.9			5R1	5.1			390	39			301	300		
1R0	1.0			5R6	5.6			430	43			331	330		
1R1	1.1			6R2	6.2			470	47			361	360		
1R2	1.2			6R8	6.8			510	51			391	390		
1R3	1.3			7R5	7.5			560	56			431	430		
1R4	1.4			8R2	8.2			620	62			471	470		
1R5	1.5			9R1	9.1			680	68			511	510		
1R6	1.6			100	10			750	75			561	560		
1R7	1.7			110	11			820	82			621	620		
1R8	1.8			120	12			910	91			681	680		
1R9	1.9			130	13			101	100			751	750		
2R0	2.0			150	15			111	110			821	820		
2R1	2.1		160	16	121	120	911	910							
2R2	2.2						102	1000							



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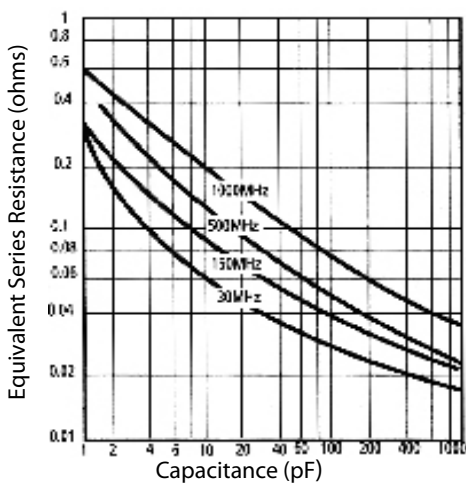
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## Specification and Performance

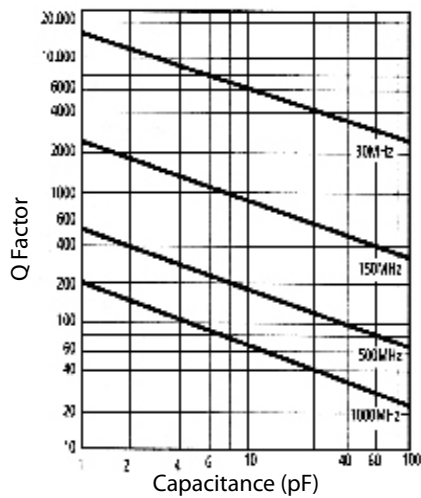
Piezoelectric and Aging Effects:	None
Temperature Range:	-55°C to +200°C
Temperature Coefficient of Capacitance:	+90±30ppm/°C
Insulation Resistance (IR, at Rated Voltage):	>10 <sup>6</sup> MΩ at 25°C >10 <sup>5</sup> MΩ at 125°C >10 <sup>4</sup> MΩ at 200°C
Dielectric Withstand Voltage (DWV):	250% of Rated Voltage
Capacitance Drift:	±0.02% or 0.02 pF

## Performance Curve

ESR vs. Capacitance



Q vs. Capacitance



Resonance

