

AMERICAN
TECHNICAL
CERAMICS

HP SERIES HIGH PERFORMANCE CAPACITORS



 THE
ENGINEERS'
CHOICE®

Low Cost HP Series High Performance
Multilayer Ceramic Capacitors

ISO 9001
REGISTERED
COMPANY



ATC 001-1103, Rev. A; 7/11

ATC HP 0402 Series High Performance NPO Ceramic MLCS

Electrical Characteristics:

Capacitance Range: 0.2 pF to 30 pF @ 1 MHz

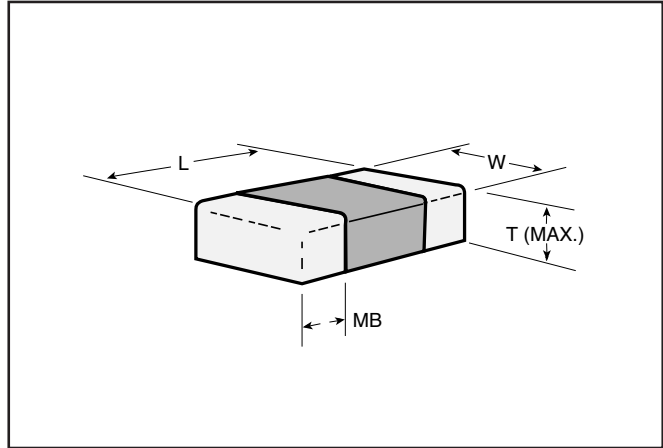
Temperature Coefficient of Capacitance: 0 ± 30 ppm/°C (-55° to +125°C)

Insulation Resistance (IR) $10^{12} \Omega$ min. @ 25°C and rated WVDC
 $10^{11} \Omega$ min. @ 125°C and rated WVDC

Dielectric Working Voltage (DWV): 250% of rated WVDC

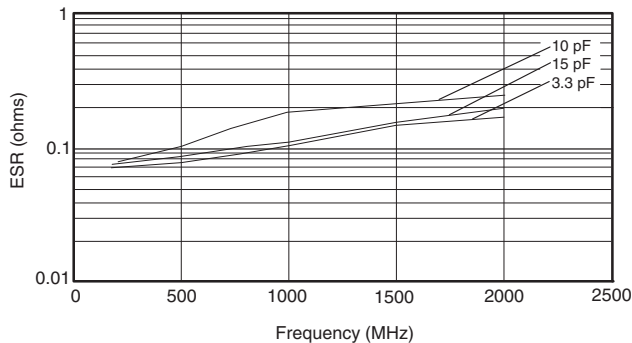
Working Voltage (WVDC) 50 WVDC

ATC offers the new HP Series high performance family of MLC ceramic capacitors. Built in a rugged ceramic SMT package, these products deliver high performance at the right price. The HP series is available in four popular EIA case sizes and is suitable for tuning, DC blocking, coupling and bypassing over the full range of wireless frequencies. All HP Series products are RoHS compliant.

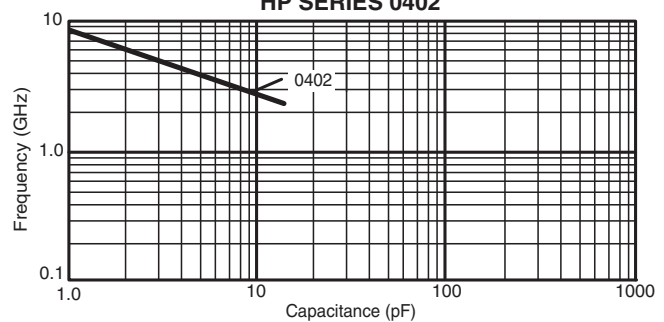


Case Size	0402
Length (L)	0.039 ±0.004 (1.00 ±0.1)
Width (W)	0.020 ±0.004 (0.50 ±0.1)
T Max.	0.024 (0.6)
Term. (MB) Max.	N/A

**TYPICAL ESR vs. FREQUENCY
HP SERIES 0402**



**TYPICAL
SERIES RESONANT FREQUENCY
HP SERIES 0402**



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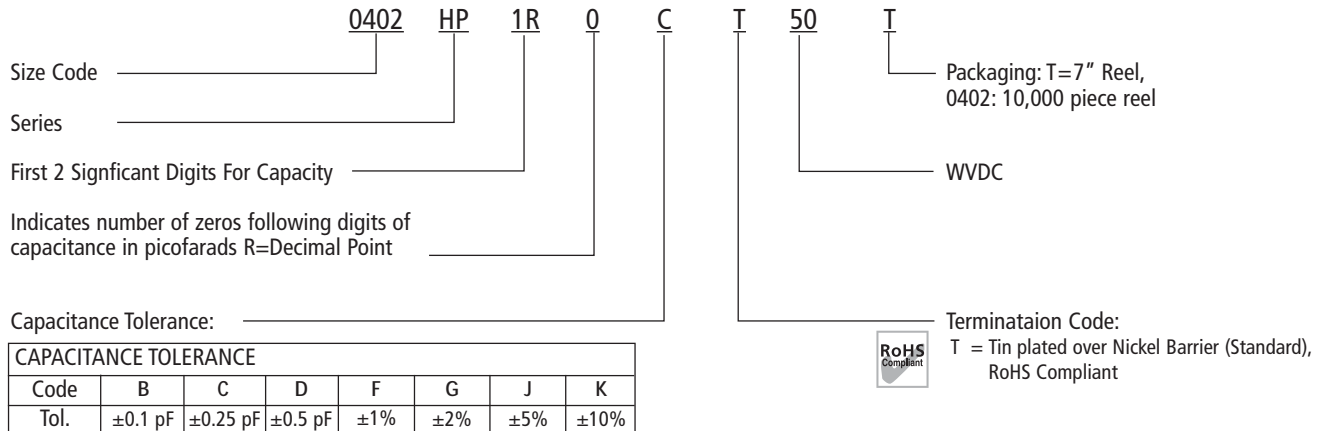
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ATC HP 0402 SERIES HIGH PERFORMANCE NPO CERAMIC MLCS

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
0R2	0.2	B, C	50	1R4	1.4	B, C, D	50	3R3	3.3	B, C, D	50	100	10	F, G, J, K	50
0R3	0.3			1R5	1.5			3R6	3.6			110	11		
0R4	0.4			1R6	1.6			3R9	3.9			120	12		
0R5	0.5			1R7	1.7			4R3	4.3			130	13		
0R6	0.6			1R8	1.8			4R7	4.7			150	15		
0R7	0.7	B, C, D		1R9	1.9			5R1	5.1			180	18		
0R8	0.8			2R0	2.0			5R6	5.6			200	20		
0R9	0.9			2R1	2.1			6R2	6.2			220	22		
1R0	1.0			2R2	2.2			6R8	6.8			240	24		
1R1	1.1			2R4	2.4			7R5	7.5			270	27		
1R2	1.2		2R7	2.7	8R2	8.2	300	30							
1R3	1.3		3R0	3.0	9R1	9.1									

Part Number Code



The above part number refers to an ATC HP 0402 Series 1.0 pF capacitor, C tolerance (±0.25 pF), 50 WVDC, with T termination (Tin Plated over Nickel Barrier), on 7 inch reel.

For additional information and catalogs contact your ATC representative or call direct at (+1-631) 622-4700. Consult factory for additional performance data.

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ATC HP 0603 Series High Performance NPO Ceramic MLCS

Electrical Characteristics:

Capacitance Range: 1.0 pF to 120 pF @ 1 MHz

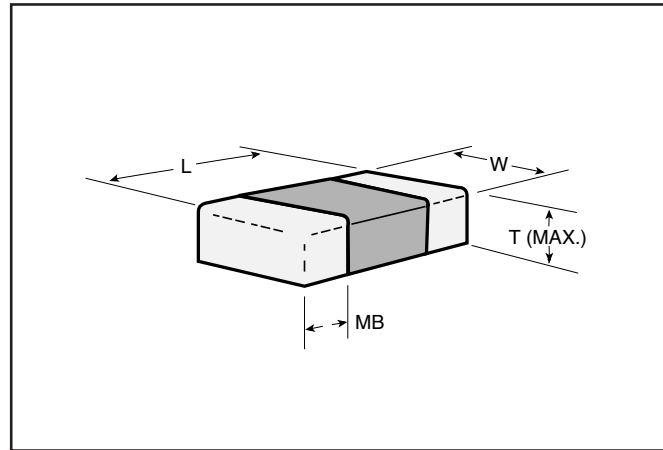
Temperature Coefficient of Capacitance: 0 ± 30 ppm/°C (-55° to +125°C)

Insulation Resistance (IR) $10^{12} \Omega$ min. @ 25°C and rated WVDC
 $10^{11} \Omega$ min. @ 125°C and rated WVDC

Dielectric Working Voltage (DWV): 250% of rated WVDC

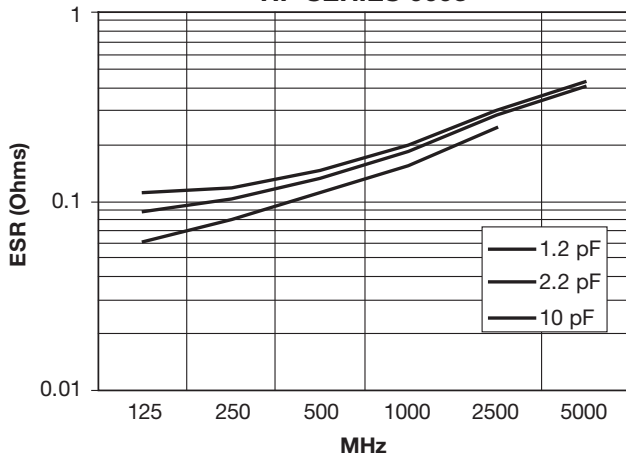
Working Voltage (WVDC) 200, 100, 50 WVDC

ATC offers the new HP Series high performance family of MLC ceramic capacitors. Built in a rugged ceramic SMT package, these products deliver high performance at the right price. The HP series is available in four popular EIA case sizes and is suitable for tuning, DC blocking, coupling and bypassing over the full range of wireless frequencies. All HP Series products are RoHS compliant.

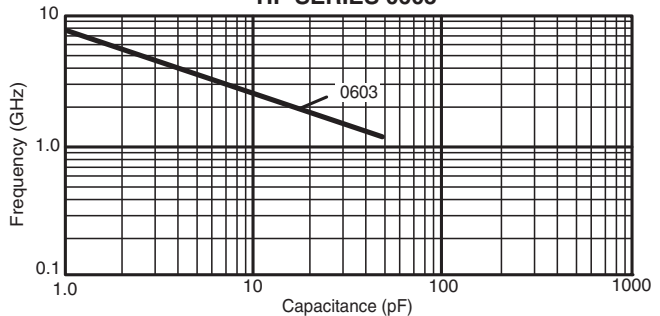


Case Size	0603
Length (L)	0.060 ±0.010 (1.52 ±0.25)
Width (W)	0.030 ±0.010 (0.76 ±0.25)
T Max.	0.036 (0.91)
Term. (MB) Max.	0.010 ±0.005 (0.25 ±0.13)

**TYPICAL ESR vs. FREQUENCY
HP SERIES 0603**



**TYPICAL SERIES RESONANT FREQUENCY
HP SERIES 0603**



A M E R I C A N T E C H N I C A L C E R A M I C S

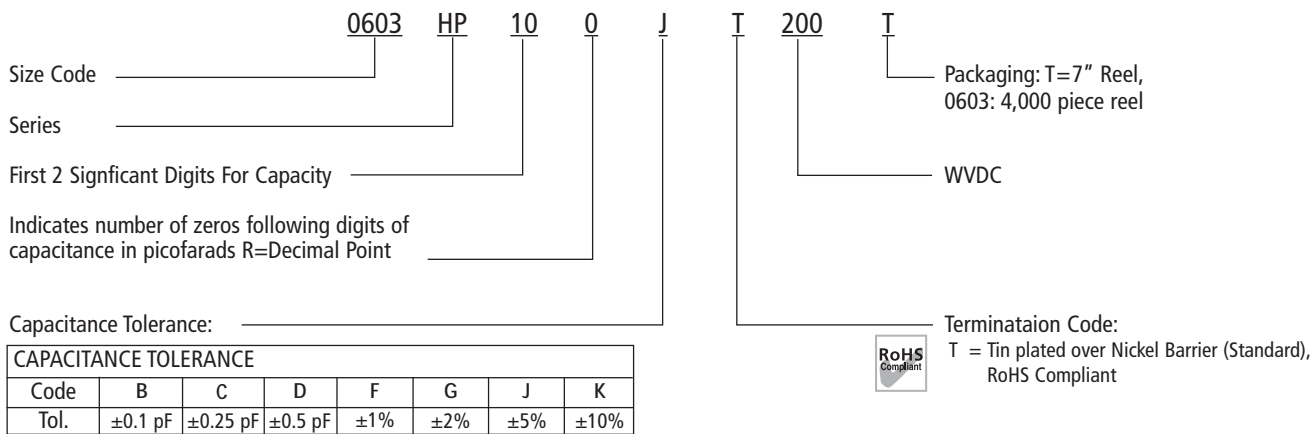
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ATC HP 0603 SERIES HIGH PERFORMANCE NPO CERAMIC MLCS

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
1R0	1.0	B, C, D	200	2R4	2.4	B, C, D	200	9R1	9.1	B, C, J, K	200	360	36	F, G, J, K	100
1R1	1.1			2R7	2.7			100	10	390		39			
1R2	1.2			3R0	3.0			110	11	430		43			
0R5	0.5			3R3	3.3			120	12	470		47			
1R3	1.3			3R6	3.6			130	13	510		51			
1R4	1.4			3R9	3.9			150	15	560		56			
1R5	1.5			4R3	4.3			180	18	680		68			
1R6	1.6			4R7	4.7			200	20	750		75			
1R7	1.7			5R1	5.1			220	22	820		82			
1R8	1.8			5R6	5.6			240	24	910		91			
1R9	1.9			6R2	6.2			270	27	101		100			
2R0	2.0			6R8	6.8			300	30	111		110			
2R1	2.1			7R5	7.5			330	33	121		120			
2R2	2.2			8R2	8.2										

Part Number Code



The above part number refers to an ATC HP 0603 Series 10 pF capacitor, J tolerance (±5%), 200 WVDC, with T termination (Tin Plated over Nickel Barrier), on 7 inch reel.

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ATC HP 0805 Series High Performance NPO Ceramic MLCS

Electrical Characteristics:

Capacitance Range: 1.0 pF to 160 pF @ 1 MHz

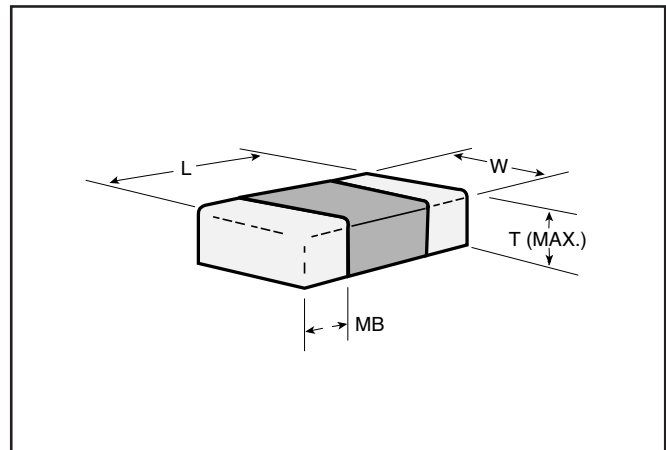
Temperature Coefficient of Capacitance: 0 ± 30 ppm/°C (-55° to +125°C)

Insulation Resistance (IR) $10^{12} \Omega$ min. @ 25°C and rated WVDC
 $10^{11} \Omega$ min. @ 125°C and rated WVDC

Dielectric Working Voltage (DWV): 250% of rated WVDC

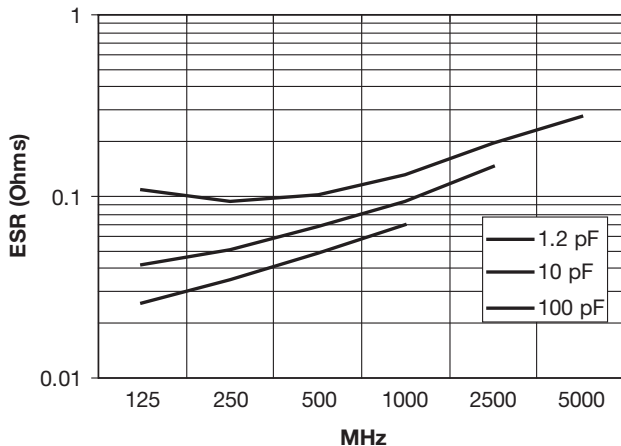
Working Voltage (WVDC) 200 WVDC

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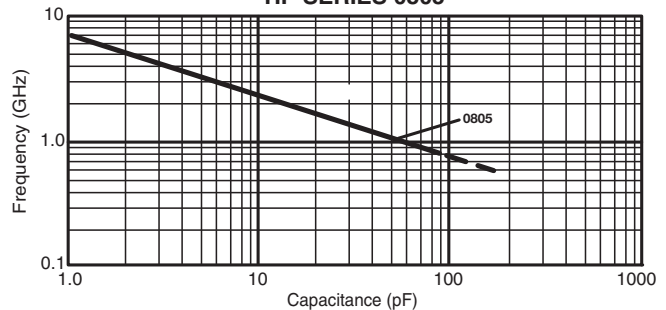


Case Size	0805
Length (L)	0.079 ±0.008 (2.01 ±0.2)
Width (W)	0.049 ±0.008 (1.25 ±0.2)
T Max.	0.040 ±0.005 (1.02 ±0.127)
Term. (MB) Max.	0.020 ±0.010 (0.51 ±0.254)

**TYPICAL ESR vs. FREQUENCY
HP SERIES 0805**



**TYPICAL SERIES RESONANT FREQUENCY
HP SERIES 0805**



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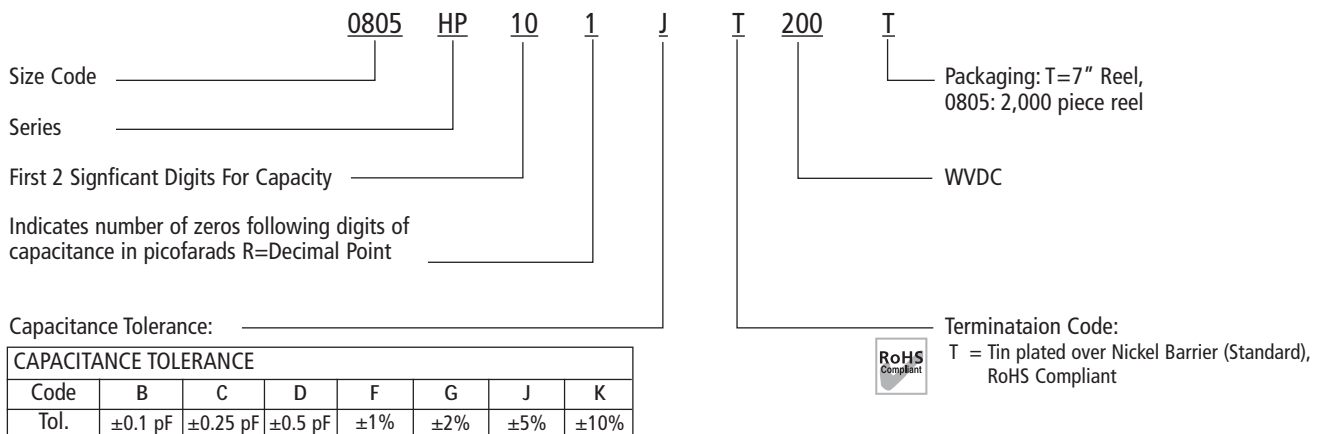
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ATC HP 0805 SERIES HIGH PERFORMANCE NPO CERAMIC MLCS

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
1R0	1.0			3R0	3.0			110	11			470	47		
1R1	1.1			3R3	3.3			120	12			510	51		
1R2	1.2			3R6	3.6			130	13			560	56		
1R3	1.3			3R9	3.9			150	15			680	68		
1R4	1.4			4R3	4.3	B, C, D		180	18			750	75		
1R5	1.5			4R7	4.7			200	20			820	82		
1R6	1.6			5R1	5.1			220	22			910	91		
1R7	1.7	B, C, D	200	5R6	5.6		200	240	24	F, G, J, K	200	101	100	F, G, J, K	200
1R8	1.8			6R2	6.2			270	27			111	110		
1R9	1.9			6R8	6.8			300	30			121	120		
2R0	2.0			7R5	7.5			330	33			131	130		
2R1	2.1			8R2	8.2	B, C, J, K		360	36			141	140		
2R2	2.2			9R1	9.1			390	39			151	150		100
2R4	2.4			100	10	F, G, J, K		430	43			161	160		
2R7	2.7														

Part Number Code



The above part number refers to an ATC HP 0805 Series 100 pF capacitor, F tolerance (±1%), 200 WVDC, with T termination (Tin Plated over Nickel Barrier), on 7 inch reel.

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ATC HP 1210 Series High Performance NPO Ceramic MLCs

Electrical Characteristics:

Capacitance Range: 1.0 pF to 1000 pF @ 1 MHz

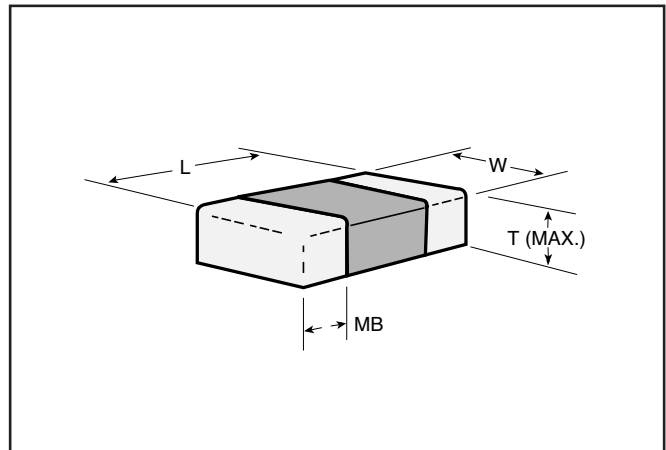
Temperature Coefficient of Capacitance: 0 ± 30 ppm/°C (-55° to +125°C)

Insulation Resistance (IR) $10^{12} \Omega$ min. @ 25°C and rated WVDC
 $10^{11} \Omega$ min. @ 125°C and rated WVDC

Dielectric Working Voltage (DWV): 250% of rated WVDC

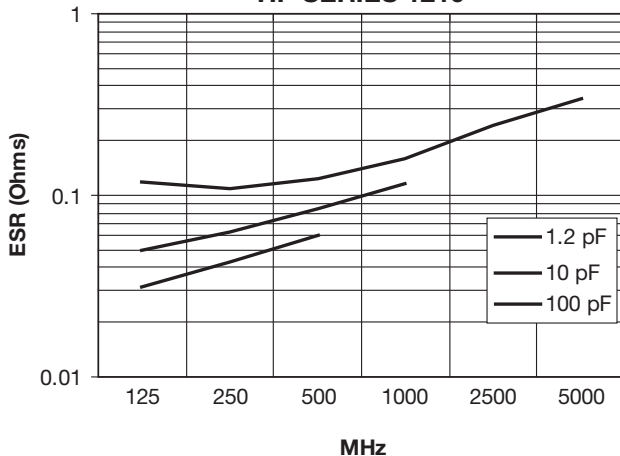
Working Voltage (WVDC) 200, 100 WVDC

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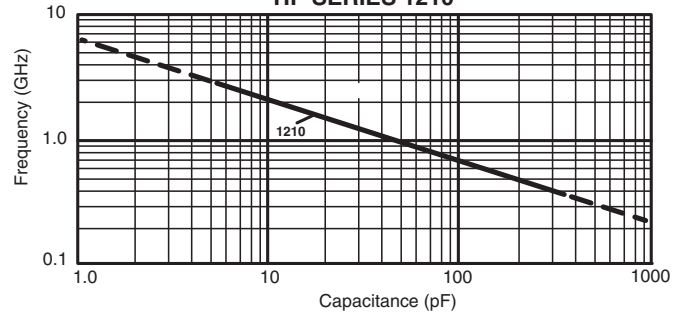


Case Size	1210
Length (L)	0.126 ±0.008 (3.2 ±0.2)
Width (W)	0.098 ±0.008 (2.49 ±0.2)
T Max.	0.050 ±0.005 (1.27 ±0.127)
Term. (MB) Max.	0.025 ±0.015 (0.635 ±0.381)

**TYPICAL ESR vs. FREQUENCY
HP SERIES 1210**



**TYPICAL
SERIES RESONANT FREQUENCY
HP SERIES 1210**



A M E R I C A N T E C H N I C A L C E R A M I C S

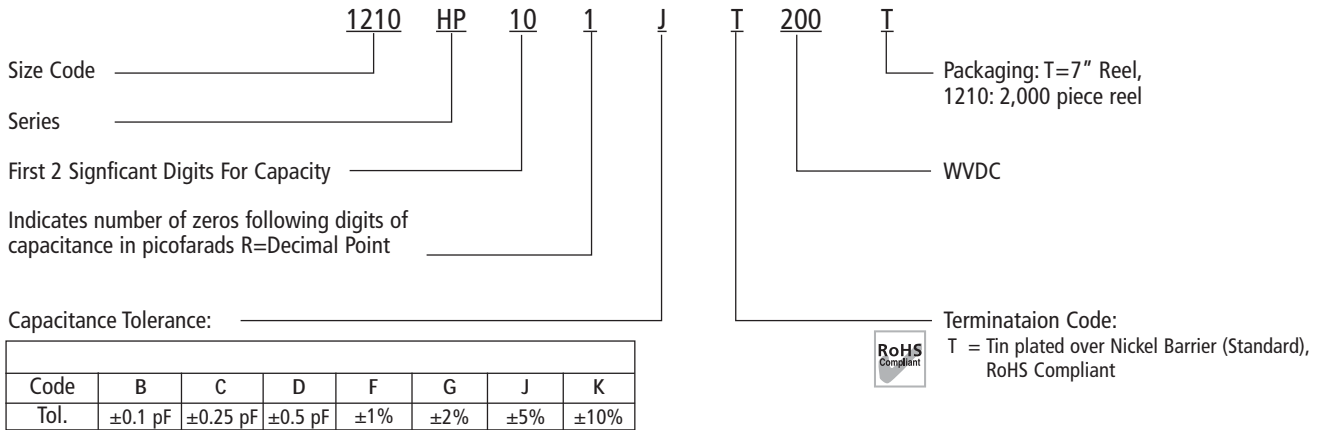
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ATC HP 1210 SERIES HIGH PERFORMANCE NPO CERAMIC MLCS

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
1R0	1.0			4R3	4.3			300	30			181	180		
1R1	1.1			4R7	4.7			330	33			201	200		
1R2	1.2			5R1	5.1	B, C, D		360	36			221	220		
1R3	1.3			5R6	5.6			390	39			271	270		
1R4	1.4			6R2	6.2			430	43			301	300		200
1R5	1.5			6R8	6.8			470	47			331	330		
1R6	1.6			7R5	7.5	B, C, J, K		510	51			361	360		
1R7	1.7			8R2	8.2			560	56			391	390		
1R8	1.8			9R1	9.1			680	68			431	430		
1R9	1.9	B, C, D	200	100	10		200	750	75	F, G, J, K	200	471	470	F, G, J, K	
2R0	2.0			110	11			820	82			511	510		
2R1	2.1			120	12			910	91			561	560		
2R2	2.2			130	13			101	100			621	620		
2R4	2.4			150	15	F, G, J, K		111	110			681	680		100
2R7	2.7			180	18			121	120			751	750		
3R0	3.0			200	20			131	130			821	820		
3R3	3.3			220	22			141	140			911	910		
3R6	3.6			240	24			151	150			102	1000		
3R9	3.9			270	27			161	160						

Part Number Code



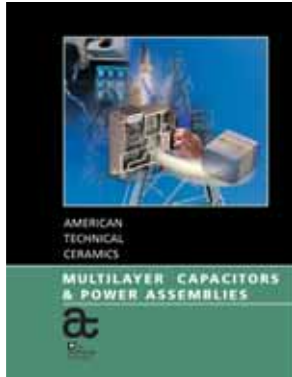
The above part number refers to an ATC HP 1210 Series 100 pF capacitor, F tolerance (±1%), 200 WVDC, with T termination (Tin Plated over Nickel Barrier), on 7 inch reel.

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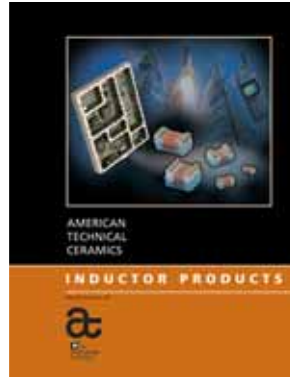
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Custom Thin Film
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