

ATC 800 H Series NPO Ceramic High RF Power Multilayer Capacitors

- Case H Size (.720" x .740")
- High Q
- Ultra Low ESR
- High RF Power
- 8000 WVDC
- Capacitance Range: 100 pF to 20,000 pF
- Ultra-Stable Performance
- High RF Current/Voltage
- High Reliability
- RoHS Compliant, Pb free

ATC's 800 H Series offers superb performance in demanding high RF power applications requiring consistent and reliable operation. The combination of highly conductive metal electrode systems, optimized case geometries, and proprietary dielectrics, yields the lowest ESR. ATC's new NPO low loss rugged dielectrics are designed to provide superior heat transfer in high RF power applications. Ultra-low ESR and superior thermal performance ensure that the 800 H Series products are your best choice for high RF power and High CV applications.

Typical functional applications: Bypass, Coupling, Tuning, Impedance Matching and DC Blocking

Typical circuit applications: HF/RF Power Amplifiers, Transmitters, Antenna Tuning, Plasma Chambers, Induction Charging Systems, Medical (MRI coils) and Inductive Heating.

ENVIRONMENTAL TESTS

ATC 800 H Series Capacitors are designed and manufactured to meet and exceed the requirements of EIA-198, MIL-PRF-55681 and MIL-PRF-123.

THERMAL SHOCK:

MIL-STD-202, Method 107, Condition A

MOISTURE RESISTANCE:

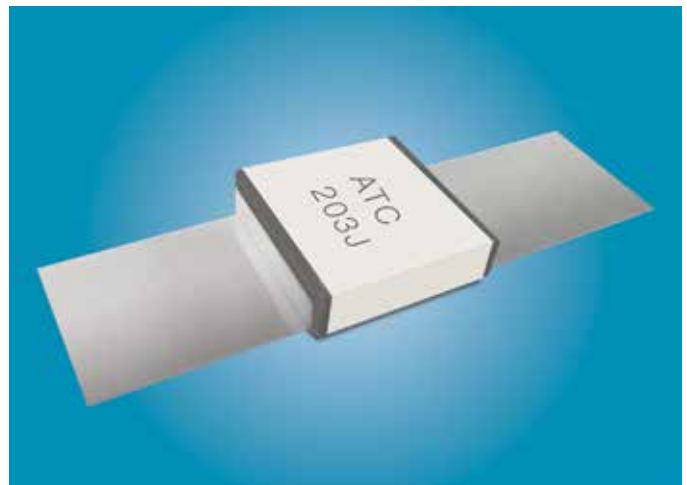
MIL-STD-202, Method 106

LOW VOLTAGE HUMIDITY:

MIL-STD-202, Method 103, Condition A, with 1.5 Volts DC applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours min.

LIFE TEST:

MIL-STD-202, Method 108, for 2000 hours, at 125°C at rated voltage.



ELECTRICAL AND MECHANICAL SPECIFICATIONS

QUALITY FACTOR (Q):

Greater than 5000 (100 pF to 1000 pF) @ 1 MHz.
Greater than 5000 (1100 pF to 20,000 pF) @ 1 KHz.

TEMPERATURE COEFFICIENT OF CAPACITANCE (TCC):

0 ±30 PPM/°C (-55°C to +125°C)

INSULATION RESISTANCE (IR):

10⁵ Megohms min. @ +25°C at 500 VDC
10⁴ Megohms min. @ +125°C at 500 VDC
Max. test voltage is 500 VDC.

WORKING VOLTAGE (WVDC):

See Capacitance Values Table, page 2

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

120% of WVDC for 5 seconds..

RETRACE: Less than ±(0.02% or 0.02 pF), whichever is greater

AGING EFFECTS: None

PIEZOELECTRIC EFFECTS: None

(No capacitance variation with voltage or pressure)

CAPACITANCE DRIFT: ±(0.02% or 0.02 pF), whichever is greater

OPERATING TEMPERATURE RANGE:

From -55°C to +125°C

TERMINATION STYLE:

See Mechanical Configurations, page 2

TERMINAL STRENGTH: Terminations for chips withstand a pull of 12 lbs. min., 20 lbs. typical, for 5 seconds in direction perpendicular to the termination surface of the capacitor. Test per MIL-STD-202, method 211.



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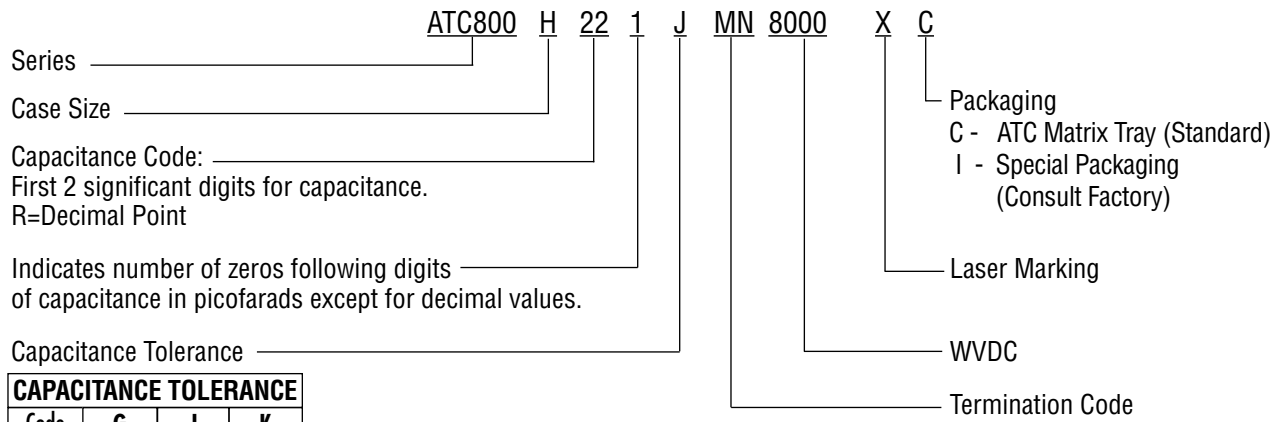
ATC # 001-1144 Rev. G, 1/18

ATC 800 H Capacitance Values

CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	CAP. CODE	CAP. (pF)	TOL.	RATED WVDC
101	100	G, J, K	8000	561	560	G, J, K	5,000	332	3300	G, J, K	5000
111	110			621	620			392	3900		
121	120			681	680			472	4700		
131	130			751	750			512	5100		
151	150			821	820			562	5600		
161	160			911	910			622	6200		
181	180			102	1000			682	6800		3000
201	200			112	1100			752	7500		
221	220			122	1200			822	8200		
241	240			132	1300			912	9100		
271	270			152	1500			103	10000		
301	300			162	1600			113	11000		
331	330	182	1800	123	12000	2000					
361	360	202	2000	133	13000						
391	390	222	2200	153	15000						
431	430	242	2400	163	16000						
471	470	272	2700	183	18000						
511	510	302	3000	203	20000						

SPECIAL VALUES, TOLERANCES AND MATCHING AVAILABLE. PLEASE CONSULT FACTORY.

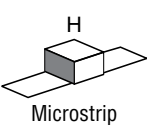
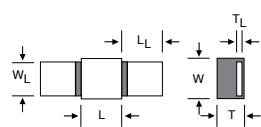
ATC PART NUMBER CODE



CAPACITANCE TOLERANCE			
Code	G	J	K
Tol.	±2%	±5%	±10%

The above part number refers to a 800 H Series (case size H) 220 pF capacitor, J tolerance (±5%), 8000 WVDC, with MN Non-Magnetic termination (Microstrip Termination), laser marking and plastic Matrix Tray packaging.

ATC 800 H Non-Magnetic Capacitors: Mechanical Configurations

ATC SERIES & CASE SIZE	ATC TERM. CODE	CASE SIZE & TYPECASE SIZE & TYPE	OUTLINES W/T IS A TERMINATION SURFACE	BODY DIMENSIONS INCHES (mm)			LEAD AND TERMINATION DIMENSIONS AND MATERIALS	
				LENGTH (L)	WIDTH (W)	THICKNESS (T)	OVERLAP (Y)	MATERIALS
800 H	MN	 Microstrip		.735 +.060 -.010 (18.67 +1.524 -.254)	.750 +.020 -.010 (19.05 +.508 -.254)	.220 (5.59) max.	N/A.	High Purity Silver Leads L _L = .750 (19.05) min. W _L = .660 ±.010 (16.764 ±.254) T _L = .010 ±.001 (.254 ±.025) Leads are Attached with High Temperature Solder

Custom lead styles and lengths are available; consult factory. All leads are high purity silver attached with high temperature solder and are **RoHS** compliant.

ATC accepts orders for our parts using designations with or without the "ATC" prefix. Both methods of defining the part number are equivalent, i.e., part numbers referenced with the "ATC" prefix are interchangeable to parts referenced without the "ATC" prefix. Customers are free to use either in specifying or procuring parts from American Technical Ceramics.

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

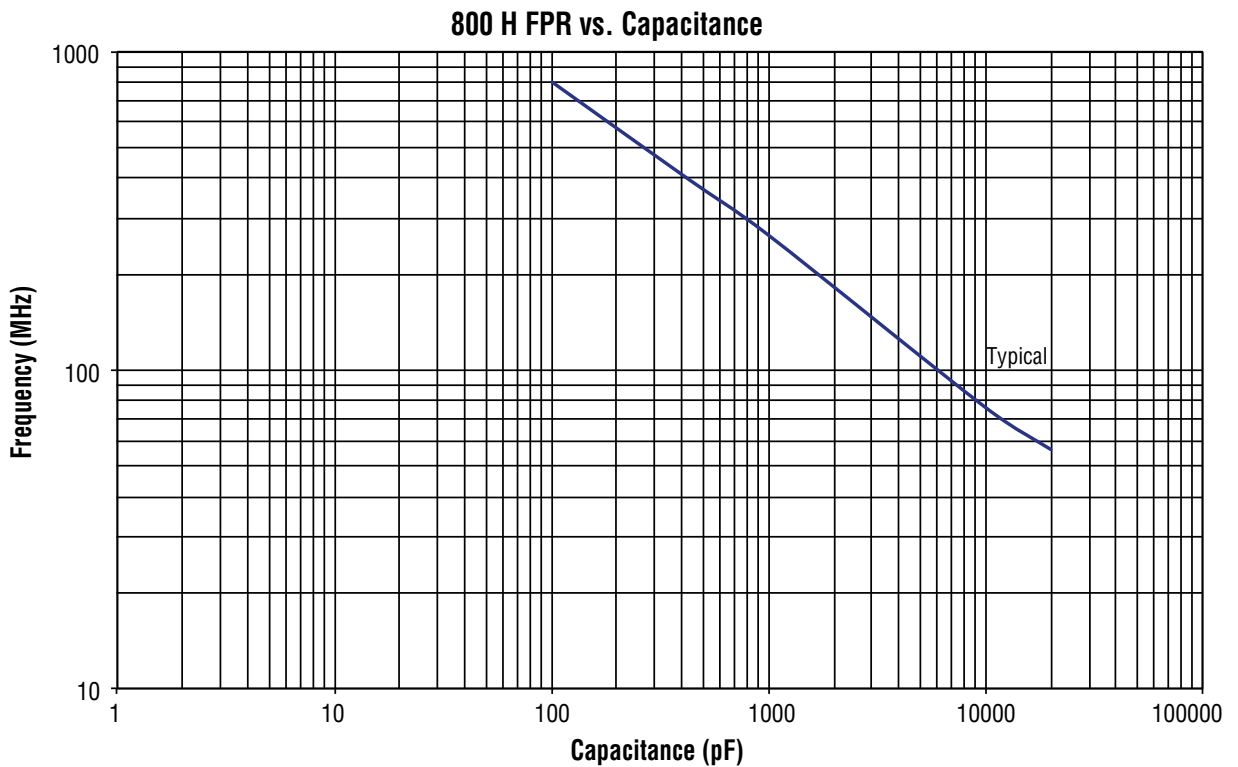
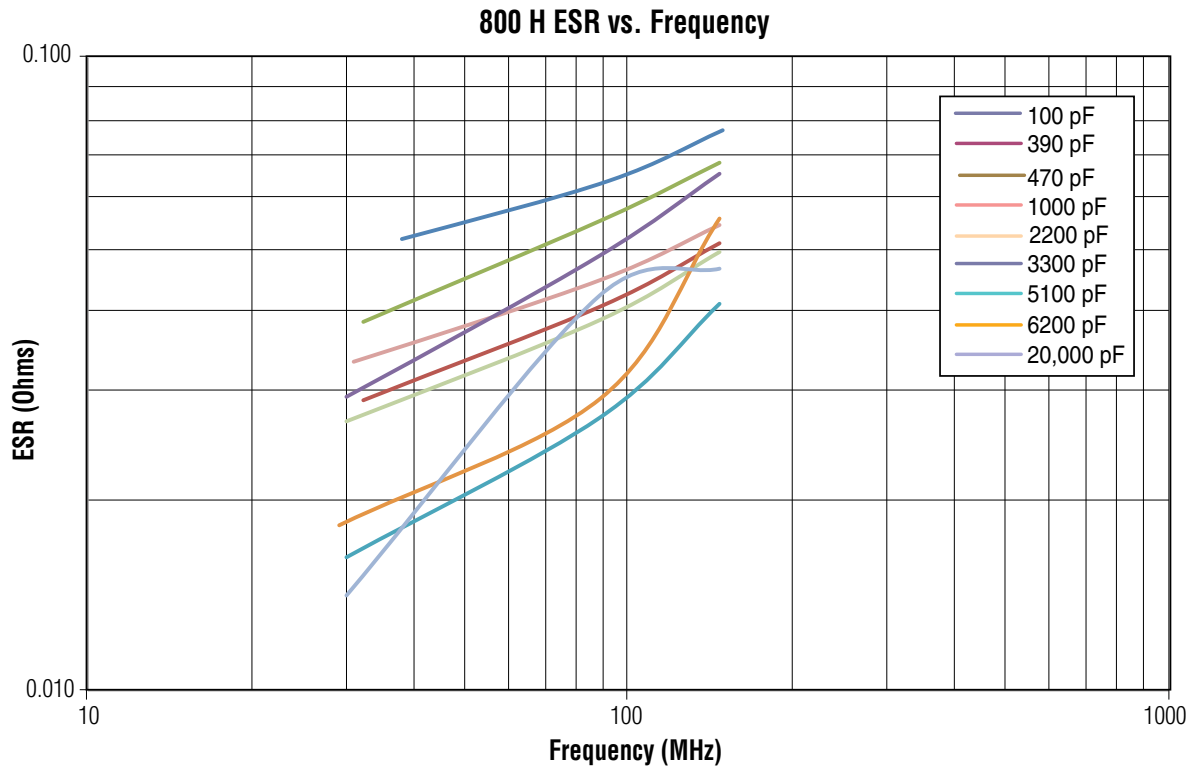
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ATC 800 H Performance Data



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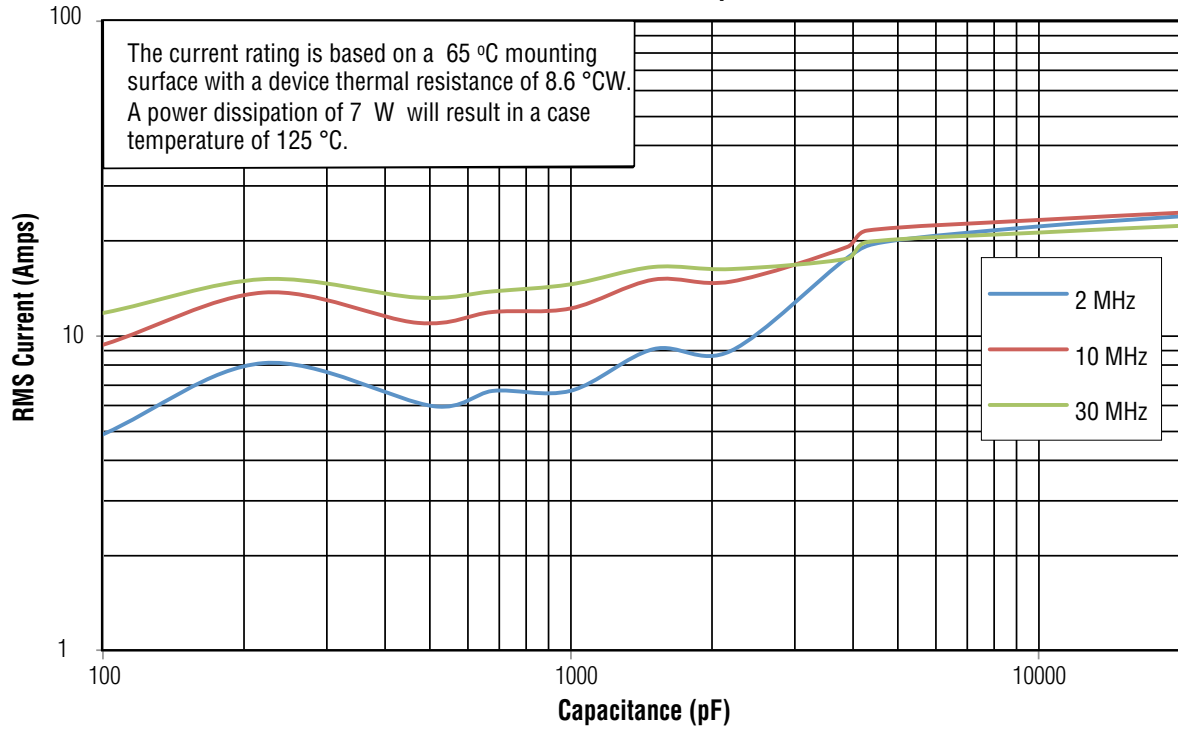
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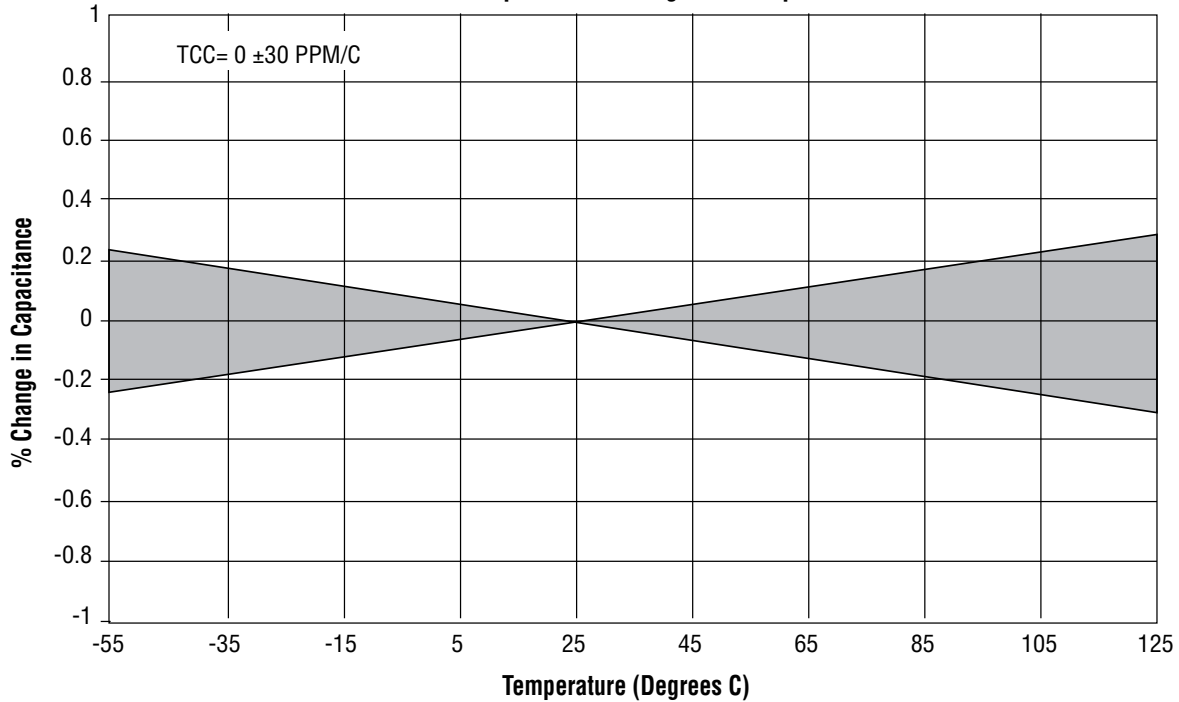
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ATC 800 H Performance Data

800 H Current vs Capacitance



800 H Capacitance Change vs. Temperature



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