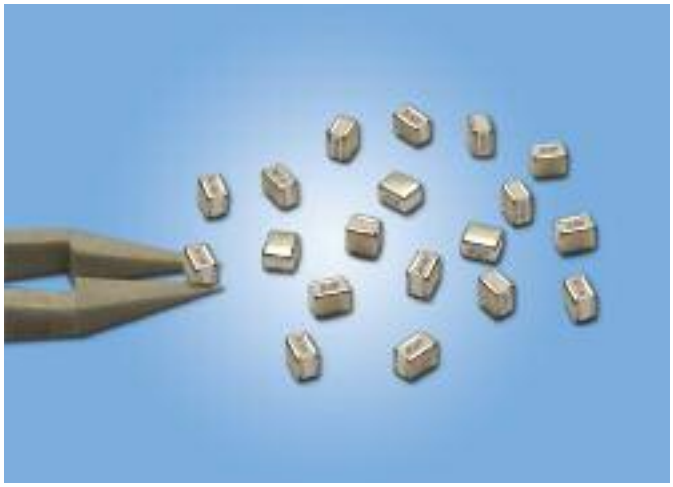
ATC 800 R Series
NPO Ceramic, High RF Power
Lowest ESR
Multilayer Capacitors

- **Case R Size (.070" x .090")**
- **Rugged, reliable NPO dielectric**
- **Optimized for highest self resonant frequency**
- **Capacitance Range 1 pF to 100 pF**
- **Optimized for lowest ESR and superior heat transfer**
- **Capable of highest RF Power**
- **RoHS Compliant / Lead-Free**



ATC's 800 R Series offers superb performance in demanding high RF power applications requiring consistent and reliable operation. The combination of optimized case geometry, highly conductive electrode formulations and proprietary dielectrics, yields the lowest ESR and superior heat transfer. 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 R Series products are your best choice for high RF power applications from UHF through microwave frequencies.

Typical applications: WiMAX / LTE*, Homeland Security / Public Safety Radio (APCO-25), Satellite Systems, Avionics, Digital HD FM Transmitters, Digital HDTV Transmitters, Microwave Communications and Medical Electronics.

Typical circuit applications: High RF Power Filter Networks, Combiners, Couplers, Matching Networks, Output Coupling, Antenna Coupling, and DC Blocking and Bypassing.

* Long term evolution

ENVIRONMENTAL TESTS

ATC 800 R 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 D.C. 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
200% WVDC applied

ELECTRICAL AND MECHANICAL SPECIFICATIONS

QUALITY FACTOR (Q): > 2,000 @ 1 MHz

TEMPERATURE COEFFICIENT OF CAPACITANCE (TCC):
0 ±30 PPM/°C (-55°C to +125°C)

INSULATION RESISTANCE (IR):
1 pF to 100 pF:
10^5 Megohms min. @ +25°C at rated WVDC
10^4 Megohms min. @ +125°C at rated WVDC

WORKING VOLTAGE (WVDC): 500 WVDC

DIELECTRIC WITHSTANDING VOLTAGE (DWV):
Case R: 250% of rated WVDC for 5 secs

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 STYLES: RoHS Compliant and Solder Plate
See Mechanical Configurations, page 3

TERMINAL STRENGTH: Terminations for chips withstand a pull of 5 lbs. min., 15 lbs. typical, for 5 seconds in direction perpendicular to the termination surface of the capacitor. Test per MIL-STD-202, Method 211.

ATC 800 R Series NPO Ceramic Ultra-Low ESR Multilayer Capacitors

ATC 800 R Capacitance Values

CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	CAP. CODE	CAP. (pF)	TOL.	RATED WVDC
1R0	1.0			3R9	3.9			220	22		
1R1	1.1			4R3	4.3			240	24		
1R2	1.2			4R7	4.7			270	27		
1R3	1.3			5R1	5.1	B, C, D		300	30		
1R4	1.4			5R6	5.6			330	33		
1R5	1.5			6R2	6.2			360	36		
1R6	1.6			6R8	6.8			390	39		
1R7	1.7			7R5	7.5	B, C, J,		430	43		
1R8	1.8			8R2	8.2	K, M		470	47	G, J	
1R9	1.9	B, C, D	500	9R1	9.1		500	510	51	K, M	500
2R0	2.0			100	10			560	56		
2R1	2.1			110	11			620	62		
2R2	2.2			120	12			680	68		
2R4	2.4			130	13	G, J		750	75		
2R7	2.7			150	15	K, M		820	82		
3R0	3.0			160	16			910	91		
3R3	3.3			180	18			101	100		
3R6	3.6			200	20						

VRMS = 0.707 X WVDC

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

ATC PART NUMBER CODE

ATC800 R 10 0 J T 500 X T

- Series
- Case Size
- Capacitance Code: First 2 significant digits for capacitance. R=Decimal Point
- Indicates number of zeros following digits of capacitance in picofarads except for decimal values.
- Capacitance Tolerance
- Termination Code
- WVDC
- Laser Marking**
- Packaging
  - TV - Electrodes in vertical orientation Tape and Reel, 500 and 1000 pc. qty.*
  - I - Special Packaging. Consult Factory.
  - *Consult ATC for other quantities

CAPACITANCE TOLERANCE							
Code	B	C	D	G	J	K	M
Tol.	±0.1 pF	±0.25 pF	±0.5 pF	±2%	±5%	±10%	±20%

The above part number refers to a 800 R Series (case size R) 10 pF capacitor, J tolerance (±5%), 500 WVDC, with T termination (Tin Plated over Nickel Barrier, RoHS Compliant), laser marked, and tape and reel packaging.
**Laser Marking is optional.

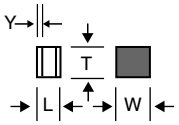
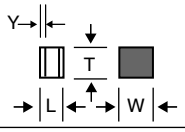
ATC accepts orders for our parts using designations ***with*** or ***without*** the "ATC" prefix. Both methods of defining the part number are equivalent, i.e., part numbers referenced with the "ATC" prefix are interchangeable to parts referenced without the "ATC" prefix. Customers are free to use either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

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

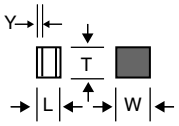
Consult factory for additional performance data.

ATC 800 R Series NPO Ceramic Ultra-Low ESR Multilayer Capacitors

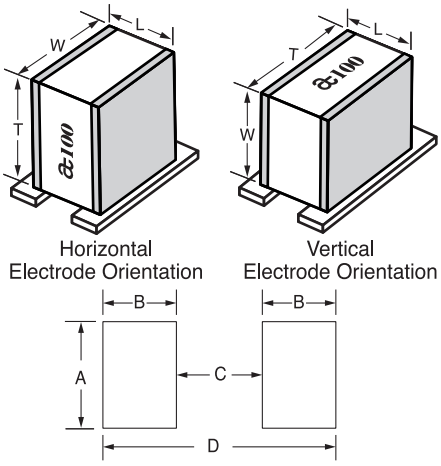
ATC 800 R Capacitors: Mechanical Configurations

ATC SERIES & CASE SIZE	ATC TERM. CODE	CASE 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
800R	T	R Solderable Nickel Barrier		.070 ±.015 (1.78 ±0.38)	.090 ±.010 (2.29 ±0.25)	.115 (2.92) max.	.010 +.010 - .005 (0.25 +0.25 - 0.13)	***RoHS Compliant*** Tin Plated over Nickel Barrier Termination
800R	W	R Solder Plate		.070 ±.015 (1.78 ±0.38)	.090 ±.010 (2.29 ±0.25)	.115 (2.92) max.	.010 +.010 - .005 (0.25 +0.25 - 0.13)	Tin/Lead, Solder Plated over Nickel Barrier Termination

ATC 800 R Non-Magnetic Capacitors: Mechanical Configurations

ATC SERIES & CASE SIZE	ATC TERM. CODE	CASE 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
800R	TN	R Non-Mag Solderable Barrier		.070 ±.015 (1.78 ±0.38)	.090 ±.010 (2.29 ±0.25)	.115 (2.92) max.	.010 +.010 - .005 (0.25 +0.25 - 0.13)	***RoHS Compliant*** Tin Plated over Non-Magnetic Barrier Termination

Suggested Mounting Pad Dimensions

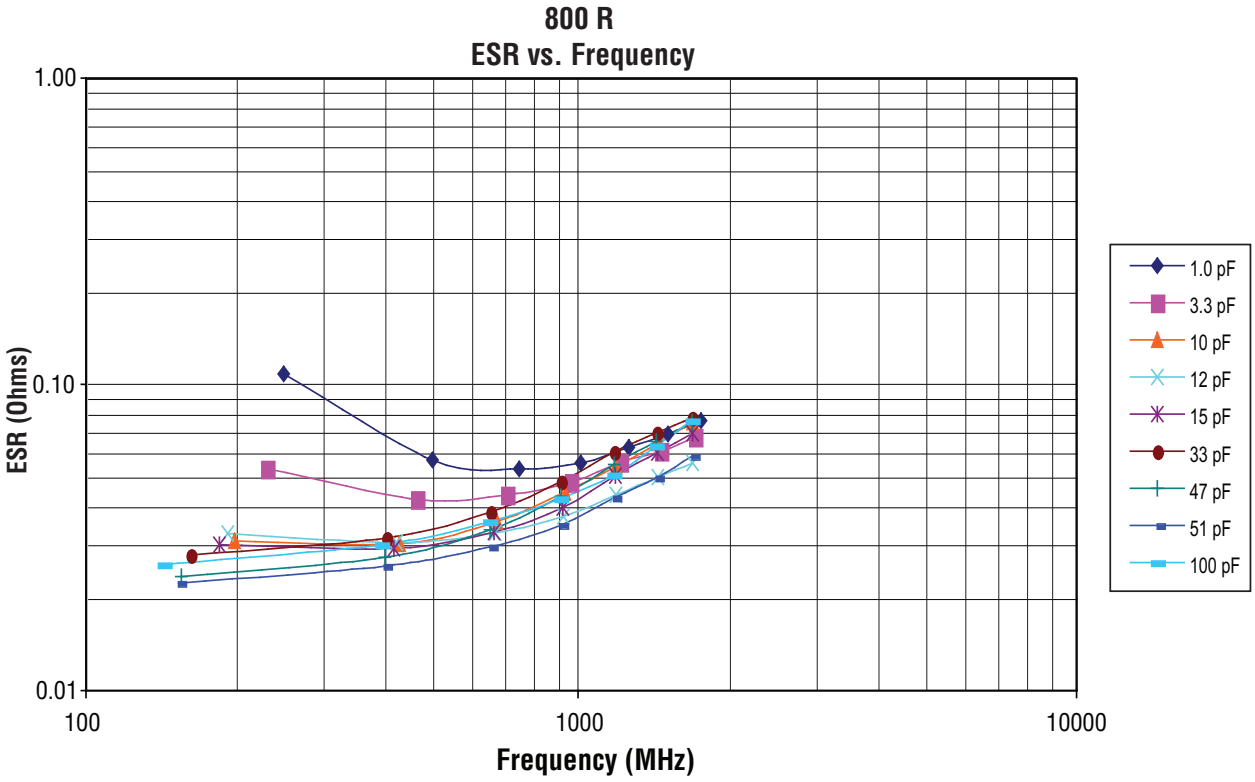


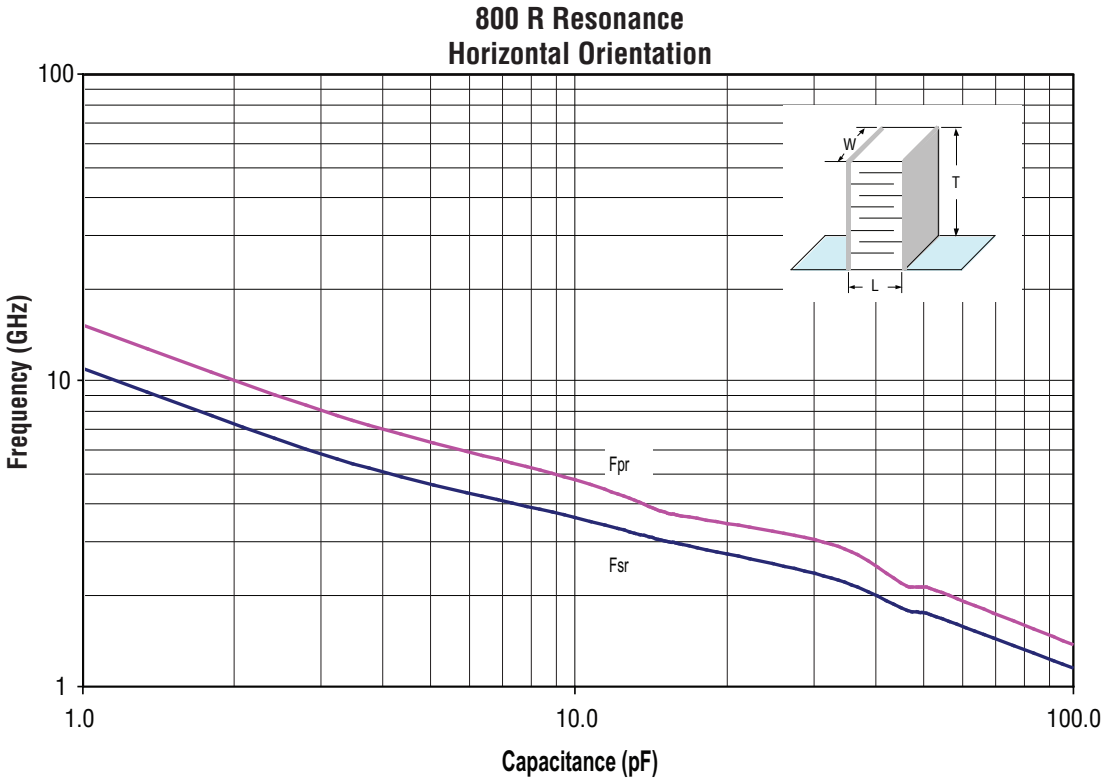
Case R

	Pad Size	A Min.	B Min.	C Min.	D Min.
Vertical Mount	Normal	.125	.050	.030	.130
	High Density	.115	.030	.030	.090
Horizontal Mount	Normal	.110	.050	.030	.130
	High Density	.090	.030	.030	.090

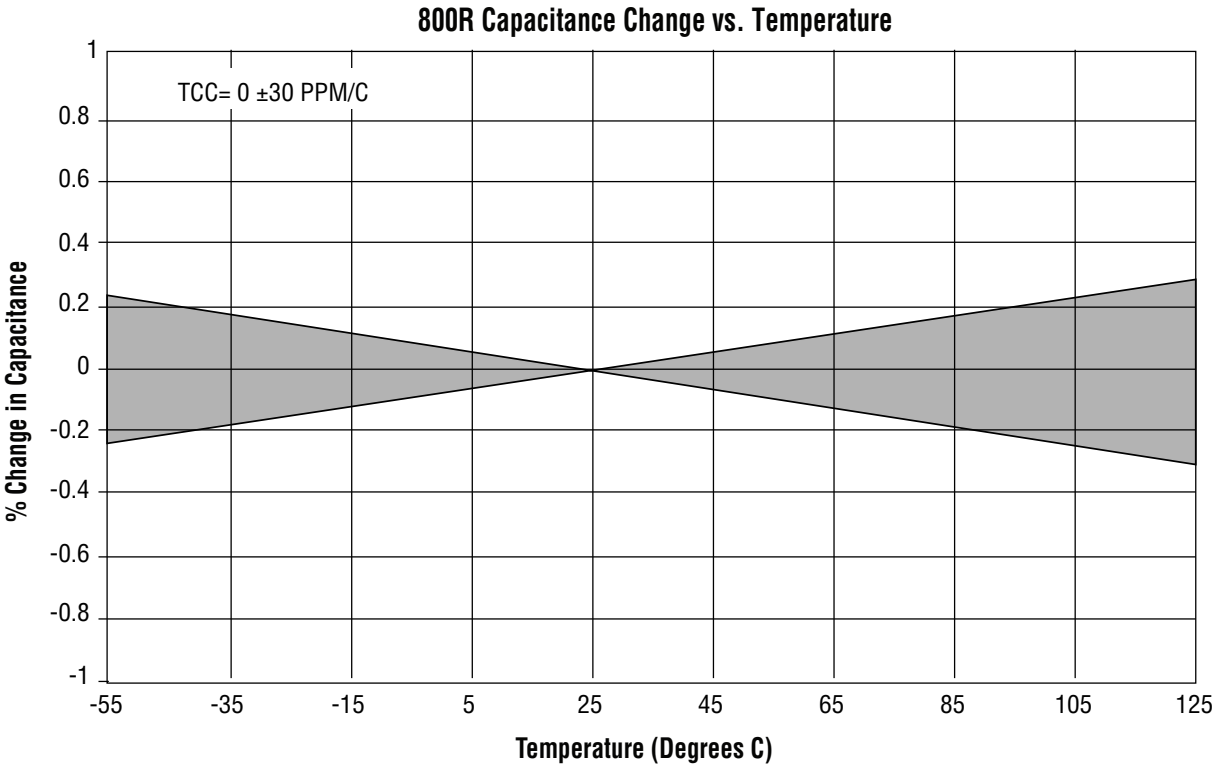
Dimensions are in inches.

ATC 800 R Series NPO Ceramic Ultra-Low ESR Multilayer Capacitors





ATC 800 R Performance Data



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ATC # 001-1029 Rev. K, 9/14

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
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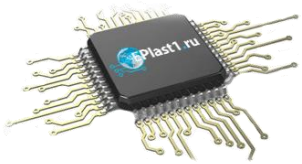
- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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