ATC 200 A Series BX Ceramic Multilayer Capacitors

- **Case A Size (.055" x .055")**
- **Capacitance Range 510 pF to 0.01 µF**
- **Low ESR/ESL**
- **Mid-K**
- **Rugged Construction**
- **High Reliability**

ATC, the industry leader, offers new improved ESR/ESL performance for the 200 A Series Capacitors. This Series exhibits high volumetric efficiency with superior IR characteristics. Ceramic construction provides a rugged, hermetic package.

Typical functional applications: Bypass, Coupling and DC Blocking.

Typical circuit applications: Switching Power Supplies and High Power Broadband Coupling.

ENVIRONMENTAL TESTS

ATC 200 A 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.
200% WVDC applied.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

DISSIPATION FACTOR (DF): 2.5% max. @ 1 KHz

TEMPERATURE COEFFICIENT OF CAPACITANCE (TCC):
±15% maximum (-55°C to +125°C)

INSULATION RESISTANCE (IR):
510 pF to 0.01 MFd:
10^4 Megohms min. @ +25°C at rated WVDC.
10^3 Megohms min. @ +125°C at rated WVDC.

WORKING VOLTAGE (WVDC):
See Capacitance Values Table, page 2.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):
Case A: 250% of rated WVDC for 5 secs. (125 VDC)

AGING EFFECTS: 3% maximum per decade hour.

PIEZOELECTRIC EFFECTS: Negligible

DIELECTRIC ABSORPTION: 2% typical

OPERATING TEMPERATURE RANGE:
From -55°C to +125°C (No derating of working voltage).

TERMINATION STYLES: Available in various surface mount styles. See Mechanical Configurations, page 3.

TERMINAL STRENGTH: Terminations for chips and pellets withstand a pull of 5 lbs. min., 10 lbs. typical, for 5 seconds in direction perpendicular to the termination surface of the capacitor. Test per MIL-STD-202, method 211.

ATC 200 A Capacitance Values

CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	CAP. CODE	CAP. (pF)	TOL.	RATED WVDC
511	510			202	2000		
561	560			222	2200		
621	620			272	2700		
681	680			332	3300		
751	750			392	3900		
821	820	K, M, N	50	472	4700	K, M, N	50
911	910			502	5000		
102	1000			562	5600		
122	1200			682	6800		
152	1500			822	8200		
182	1800			103	10,000		

VRMS = 0.707 x WVDC

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

CAPACITANCE TOLERANCE

Code	K	M	N
Tol.	±10%	±20%	±30%

ATC PART NUMBER CODE

ATC200 A 56 2 M W 50 X T

- Series: ATC200
- Case Size: A
- Capacitance Code: First 2 significant digits for capacitance. 56
- Indicates number of zeros following digits of capacitance in picofarads except for decimal values. 2
- Capacitance Tolerance: M
- Termination Code: W
- WVDC: 50
- Laser Marking: X
- Packaging: T
  - T - Tape and Reel, 1000 pc. qty.*
  - TV - Vertical Orientation of Product, Tape and Reel, 1000 pc. qty.*
  - I - Special Packaging. Consult Factory.
  - *Consult ATC for other quantities

ATC Cap-Pac® packaging (100 pc. qty. std.) is also available. For this option, leave last field blank.

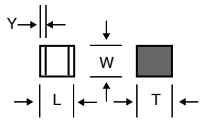
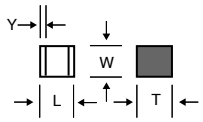
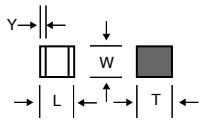
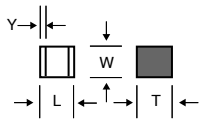
The above part number refers to a 200 A Series (case size A) 5600 pF capacitor, M tolerance (±20%), 50 WVDC, with W termination (Tin/Lead, Solder Plated over Nickel Barrier), Laser Marking and ATC Cap-Pac® packaging.

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.

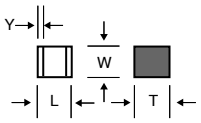
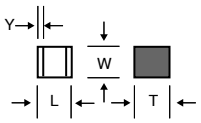
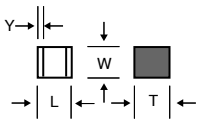
For additional information and catalogs contact your ATC representative or call direct at (+1-631) 622-4700.

Consult factory for additional performance data.

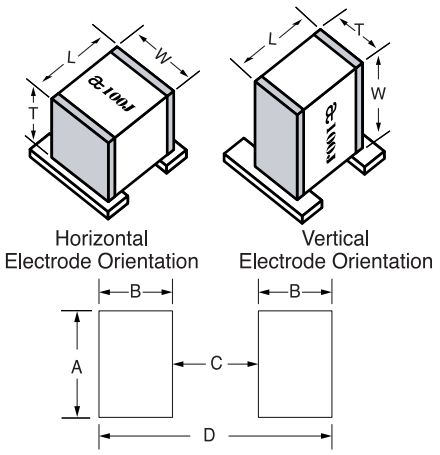
ATC 200 A Capacitors: Mechanical Configurations

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
200A	W	A Solder Plate		.055 +.015 -.010 (1.40 +0.38 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	Tin/Lead, Solder Plated over Nickel Barrier Termination
200A	P	A Pellet		.055 +.025 -.010 (1.40 +0.64 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	Heavy Tin/Lead Coated, over Nickel Barrier Termination
200A	T	A Solderable Nickel Barrier		.055 +.015 -.010 (1.40 +0.38 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	***RoHS Compliant*** Tin Plated over Nickel Barrier Termination
200A	CA	A Gold Chip		.055 +.015 -.010 (1.40 +0.38 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	***RoHS Compliant*** Gold Plated over Nickel Barrier Termination

ATC 200 A Capacitors: Non-Magnetic 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
200A	WN	A Non-Mag Solder Plate		.055 +.025 -.010 (1.40 +0.64 -0.25)	055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	.010 +.010 - .005 (0.25 +0.25 - 0.13)	Tin/Lead, Solder Plated over Non-Magnetic Barrier Termination
200A	PN	A Non-Mag Pellet		.055 +.035 -.010 (1.40 +0.89 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	Heavy Tin/Lead Coated, over Non-Magnetic Barrier Termination
200A	TN	A Non-Mag Solderable Barrier		.055 +.025 -.010 (1.40 +0.64 -0.25)	.055 ±.015 (1.40 ±0.38)	.057 (1.45) max.	0.010 +.010 - .005 (0.25 +0.25 - 0.13)	***RoHS Compliant*** Tin Plated over Non-Magnetic Barrier Termination

Suggested Mounting Pad Dimensions



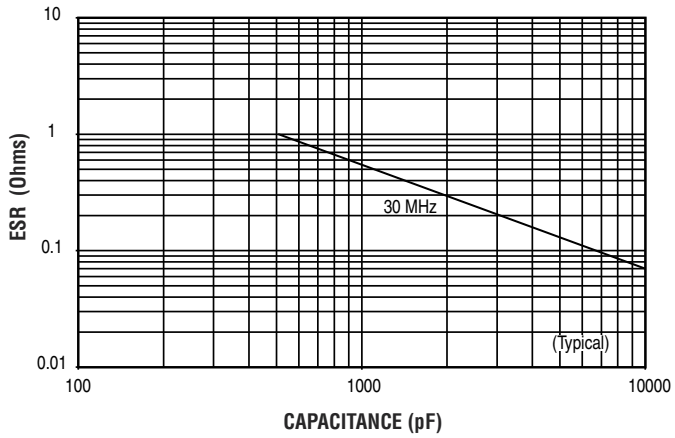
Case A

	Pad Size	A Min.	B Min.	C Min.	D Min.
Vertical Mount	Normal	.070	.050	.030	.130
	High Density	.050	.030	.030	.090
Horizontal Mount	Normal	.080	.050	.030	.130
	High Density	.060	.030	.030	.090

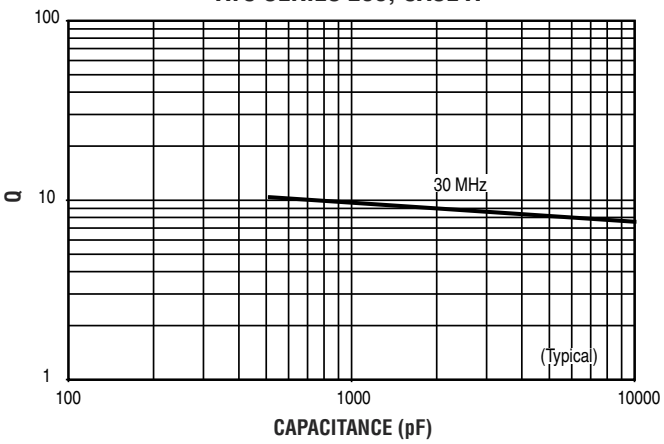
Dimensions are in inches.

ATC 200 A Performance Data

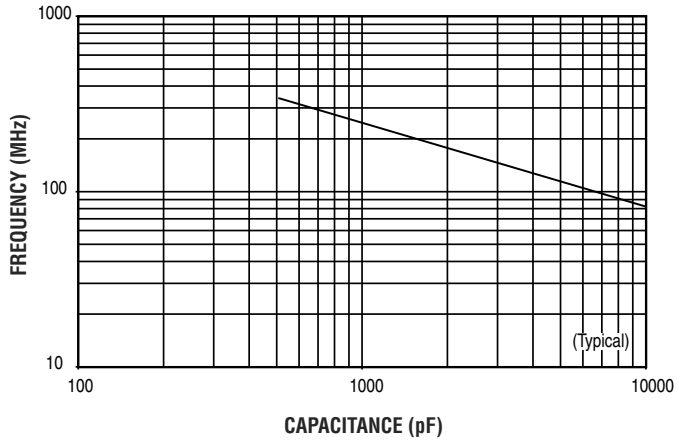
ESR VS. CAPACITANCE
ATC SERIES 200, CASE A



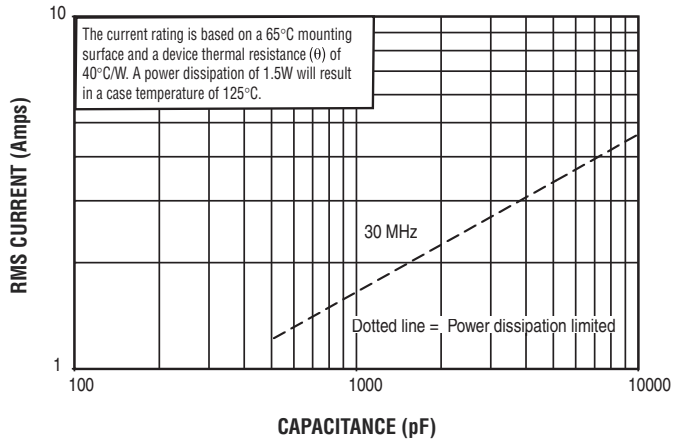
Q VS. CAPACITANCE
ATC SERIES 200, CASE A



SERIES RESONANCE VS. CAPACITANCE
ATC SERIES 200, CASE A



CURRENT RATING VS. CAPACITANCE
ATC SERIES 200, CASE A



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