

# ATC 200 A Series BX Ceramic Multilayer Capacitors

- Case A Size (.055" x .055")
- Capacitance Range 510 pF to 0.01  $\mu$ F
- Low ESR/ESL
- Mid-K
- Rugged Construction
- High Reliability
- Extended WVDC Available

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):**  $\pm$ 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.

**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.



**AMERICAN**  
ATC North America  
sales@atceramics.com

**TECHNICAL**  
ATC Europe  
sales@atceramics.com

**CERAMICS**  
ATC Asia  
sales@atceramics-asia.com

**THE ENGINEERS' CHOICE®**  
ISO 9001 REGISTERED COMPANY

**THE ENGINEERS' CHOICE®**

**www.atceramics.com**

ATC # 001-811 Rev. P, 8/20

# ATC 200 A Capacitance Values

| CAP. CODE | CAP. (pF) | TOL.    | RATED WVDC |       | CAP. CODE | CAP. (pF) | TOL.    | RATED WVDC |       |
|-----------|-----------|---------|------------|-------|-----------|-----------|---------|------------|-------|
|           |           |         | STD.       | EXT.* |           |           |         | STD.       | EXT.* |
| 511       | 510       | K, M, N | 50         | 100   | 202       | 2000      | K, M, N | 50         | 100   |
| 561       | 560       |         |            |       | 222       | 2200      |         |            |       |
| 621       | 620       |         |            |       | 272       | 2700      |         |            |       |
| 681       | 680       |         |            |       | 332       | 3300      |         |            |       |
| 751       | 750       |         |            |       | 392       | 3900      |         |            |       |
| 821       | 820       |         |            |       | 472       | 4700      |         |            |       |
| 911       | 910       |         |            |       | 502       | 5000      |         |            |       |
| 102       | 1000      |         |            |       | 562       | 5600      |         |            |       |
| 122       | 1200      |         |            |       | 682       | 6800      |         |            |       |
| 152       | 1500      |         |            |       | 822       | 8200      |         |            |       |
| 182       | 1800      |         |            |       | 103       | 10,000    |         |            |       |

$VRMS = 0.707 \times WVDC$

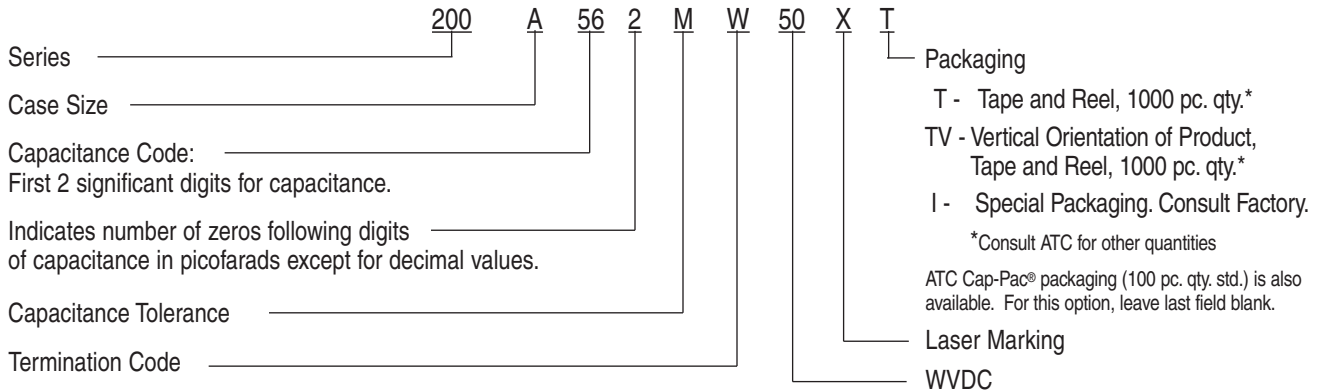
**SPECIAL VALUES, TOLERANCES, HIGHER WVDC AND MATCHING AVAILABLE. PLEASE CONSULT FACTORY.**

\*Extended WVDC offering meets X7R characteristics

## CAPACITANCE TOLERANCE

| Code | K    | M    | N    |
|------|------|------|------|
| Tol. | ±10% | ±20% | ±30% |

## ATC PART NUMBER CODE



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.

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

Consult factory for additional performance data.


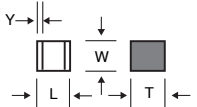

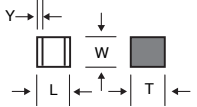

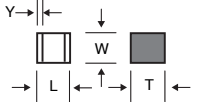

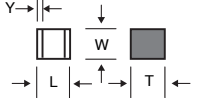
**A M E R I C A N T E C H N I C A L C E R A M I C S**

ATC North America  
sales@atceramics.com

ATC Europe  
sales@atceramics.com

ATC Asia  
sales@atceramics-asia.com

# ATC 200 A Capacitors: Mechanical Configurations

| ATC SERIES & CASE SIZE | ATC TERM. CODE | CASE SIZE & TYPE   | OUTLINES<br>W/T IS A TERMINATION SURFACE  | BODY DIMENSIONS<br>Inches (mm)                  |                            |                     | LEAD AND TERMINATION DIMENSIONS AND MATERIALS |   |
|------------------------|----------------|--|---|---|----------------------------|---------------------|---|---|
|                        |                |  |   | LENGTH (L)                                      | WIDTH (W)                  | THICKNESS (T)       | OVERLAP (Y)                                   | MATERIALS   |
| 200A                   | W              | A <br>Solder Plate              |  | .055<br>+.015 -.010<br>(1.40<br>+0.38<br>-0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  | Tin/Lead, Solder Plated over Nickel Barrier Termination |
| 200A                   | P              | A <br>Pellet                    |  | .055<br>+.025 -.010<br>(1.40<br>+0.64<br>-0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  | Heavy Tin/Lead Coated, over Nickel Barrier Termination  |
| 200A                   | T              | A <br>Solderable Nickel Barrier |  | .055<br>+.015 -.010<br>(1.40<br>+0.38<br>-0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  |   |
| 200A                   | CA             | A <br>Gold Chip                 |  | .055<br>+.015 -.010<br>(1.40<br>+0.38<br>-0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  |   |

# ATC 200 A Capacitors: Non-Magnetic Mechanical Configurations

| ATC SERIES & CASE SIZE | ATC TERM. CODE | CASE SIZE & TYPE             | OUTLINES<br>W/T IS A TERMINATION SURFACE | BODY DIMENSIONS<br>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<br>+.025 -.010<br>(1.40<br>+0.64 -0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  | Tin/Lead, Solder Plated over Non-Magnetic Barrier Termination |
| 200A                   | PN             | A Non-Mag Pellet             |  | .055<br>+.035 -.010<br>(1.40<br>+0.89 -0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  | Heavy Tin/Lead Coated, over Non-Magnetic Barrier Termination  |
| 200A                   | TN             | A Non-Mag Solderable Barrier |  | .055<br>+.025 -.010<br>(1.40<br>+0.64 -0.25) | .055 ±.015<br>(1.40 ±0.38) | .057 (1.45)<br>max. | .010<br>+.010 -.005<br>(0.25<br>+0.25 -0.13)  |   |

## Suggested Mounting Pad Dimensions

Horizontal Electrode Orientation

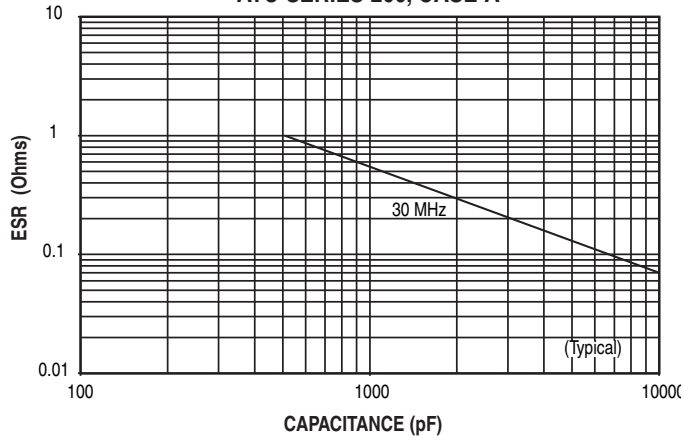
Vertical Electrode Orientation

Case A

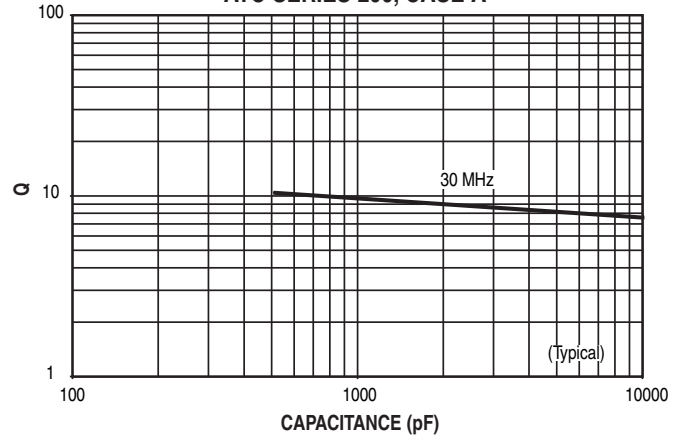
|                  | Pad Size     | A Min. | B Min. | C Min. | D Min. |
|------------------|--------------|--------|--------|--------|--------|
| Vertical Mount   | Normal       | .070   | .050   | .030   | .130   |
|                  | High Density | .050   | .030   | .030   | .090   |
| Horizontal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

# ATC 200 A Performance Data

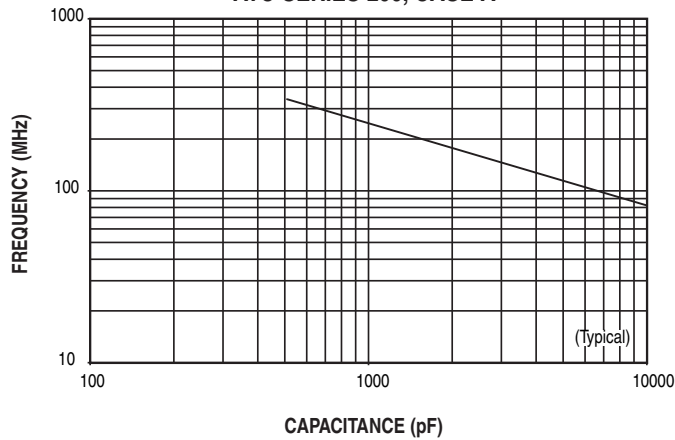
**ESR VS. CAPACITANCE  
ATC SERIES 200, CASE A**



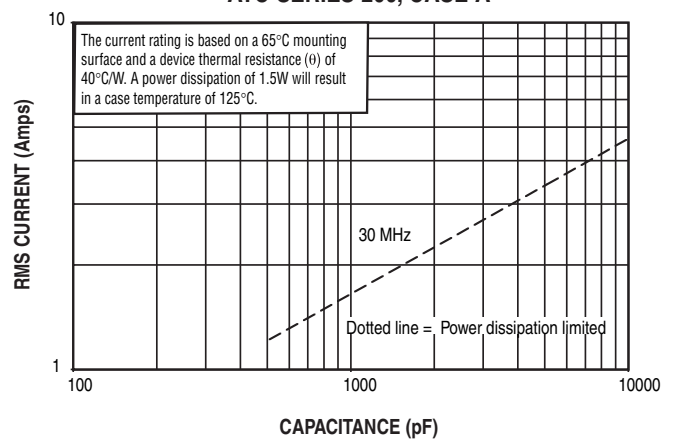
**Q VS. CAPACITANCE  
ATC SERIES 200, CASE A**



**SERIES RESONANCE VS. CAPACITANCE  
ATC SERIES 200, CASE A**



**CURRENT RATING VS. CAPACITANCE  
ATC SERIES 200, CASE A**



**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**

ATC North America  
sales@atceramics.com

ATC Europe  
sales@atceramics.com

ATC Asia  
sales@atceramics-asia.com

*Sales of ATC products are subject to the terms and conditions contained in American Technical Ceramics Corp. Terms and Conditions of Sale (ATC document #001-992). Copies of these terms and conditions will be provided upon request. They may also be viewed on ATC's website at [www.atceramics.com/productfinder/default.asp](http://www.atceramics.com/productfinder/default.asp). Click on the link for Terms and Conditions of Sale.*

*ATC has made every effort to have this information as accurate as possible. However, no responsibility is assumed by ATC for its use, nor for any infringements of rights of third parties which may result from its use. ATC reserves the right to revise the content or modify its product without prior notice.*

© 1996 American Technical Ceramics Corp. All Rights Reserved.

ATC # 001-811 Rev. P, 8/20



**AMERICAN**  
ATC North America  
[sales@atceramics.com](mailto:sales@atceramics.com)

**TECHNICAL**  
ATC Europe  
[saleseur@atceramics.com](mailto:saleseur@atceramics.com)

**CERAMICS**  
ATC Asia  
[sales@atceramics-asia.com](mailto:sales@atceramics-asia.com)

 **THE**  
**ENGINEERS'**  
**CHOICE®**  
ISO 9001 REGISTERED  
COMPANY

**THE ENGINEERS' CHOICE®**

**[www.atceramics.com](http://www.atceramics.com)**