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
- 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:

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:

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:
10⁴ Megohms min. @ +25°C at rated WVDC.
10³ 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.
ATC 200 A Capacitance Values

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

VRMS = 0.707 x WVDC

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

*Extended WVDC offering meets X7R characteristics

### CAPACITANCE TOLERANCE

<table>
<thead>
<tr>
<th>Code</th>
<th>K</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tol.</td>
<td>±10%</td>
<td>±20%</td>
<td>±30%</td>
</tr>
</tbody>
</table>

### ATC PART NUMBER CODE

Series 200
Case Size A
Capacitance Code: 56 2
First 2 significant digits for capacitance.
Indicates number of zeros following digits of capacitance in picofarads except for decimal values.
Capacitance Tolerance M
Termination Code W

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.
<table>
<thead>
<tr>
<th>ATC SERIES &amp; CASE SIZE</th>
<th>ATC TERM. CODE</th>
<th>CASE SIZE &amp; TYPE</th>
<th>OUTLINES W/T IS A TERMINATION SURFACE</th>
<th>BODY DIMENSIONS Inches (mm)</th>
<th>LEAD AND TERMINATION DIMENSIONS AND MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LENGTH (L)</td>
<td>WIDTH (W)</td>
</tr>
<tr>
<td>200A W</td>
<td>A</td>
<td>Solder Plate</td>
<td>[Diagram]</td>
<td>.055</td>
<td>.055 ±.015</td>
</tr>
<tr>
<td>200A P</td>
<td>A</td>
<td>Pellet</td>
<td>[Diagram]</td>
<td>.055</td>
<td>.055 ±.015</td>
</tr>
<tr>
<td>200A T</td>
<td>A</td>
<td>Solderable Nickel Barrier</td>
<td>[Diagram]</td>
<td>.055</td>
<td>.055 ±.015</td>
</tr>
<tr>
<td>200A CA</td>
<td>A</td>
<td>Gold Chip</td>
<td>[Diagram]</td>
<td>.055</td>
<td>.055 ±.015</td>
</tr>
</tbody>
</table>
### ATC 200 A Capacitors: Non-Magnetic Mechanical Configurations

<table>
<thead>
<tr>
<th>ATC SERIES &amp; CASE SIZE</th>
<th>ATC TERM. CODE</th>
<th>CASE SIZE &amp; TYPE</th>
<th>OUTLINES W/T IS A TERMINATION SURFACE</th>
<th>BODY DIMENSIONS Inches (mm)</th>
<th>LEAD AND TERMINATION DIMENSIONS AND MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>200A</td>
<td>WN</td>
<td>A Non-Mag Solder Plate</td>
<td>![Diagram of WN]</td>
<td>LENGTH (L)</td>
<td>WIDTH (W)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.055 ±.015 (1.40 ±.38)</td>
<td>.055 ±.015 (1.40 ±.38)</td>
</tr>
<tr>
<td>200A</td>
<td>PN</td>
<td>A Non-Mag Pellet</td>
<td>![Diagram of PN]</td>
<td>.055 ±.015 (1.40 ±.38)</td>
<td>.055 ±.015 (1.40 ±.38)</td>
</tr>
<tr>
<td>200A</td>
<td>TN</td>
<td>A Non-Mag Solderable Barrier</td>
<td>![Diagram of TN]</td>
<td>.055 ±.015 (1.40 ±.38)</td>
<td>.055 ±.015 (1.40 ±.38)</td>
</tr>
</tbody>
</table>

#### Suggested Mounting Pad Dimensions

- **Case A**
  - **Vertical Mount**
    - Normal: A Min. 0.070, B Min. 0.050, C Min. 0.030, D Min. 0.130
    - High Density: A Min. 0.050, B Min. 0.030, C Min. 0.030, D Min. 0.090
  - **Horizontal Mount**
    - Normal: A Min. 0.080, B Min. 0.050, C Min. 0.030, D Min. 0.130
    - High Density: A Min. 0.060, B Min. 0.030, C Min. 0.030, D Min. 0.090

---

AMERICAN TECHNICAL CERAMICS
ATC North America
sales@atceramics.com
ATC Europe
sales@atceramics-europe.com
ATC Asia
sales@atceramics-asia.com

www.atceramics.com
The current rating is based on a 65°C mounting surface and a device thermal resistance (θ) of 40°C/W. A power dissipation of 1.5W will result in a case temperature of 125°C.
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. 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 North America
sales@atceramics.com

ATC Europe
saleseur@atceramics.com

ATC Asia
sales@atceramics-asia.com

THE ENGINEERS’ CHOICE®
www.atceramics.com