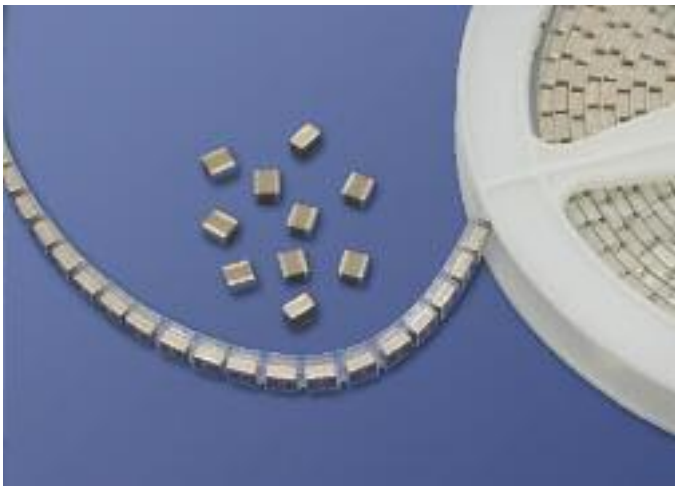
ATC 920 C Series X7R Ceramic RF Power Multilayer Capacitors

- **Case C Size (.250" x .250")**
- **Capacitance Range 0.01 µF to 1 µF**
- **Low ESR/ESL**
- **Non Magnetic**
- **Rugged Construction**
- **High Reliability**
- **Manufactured for ATC**
- **Mid-K**
- **RoHS Compliant**



ATC's 920C Series MLC capacitors offer superior quality at a competitive price. This MLC Series is manufactured for ATC in accordance with ATC's high quality standards. Ceramic construction provides a rugged and reliable hermetic package. Available termination styles include a standard solder plate over a nickel barrier for most applications and palladium silver for non-magnetic applications commonly used in medical electronics.

Typical functional applications: Bypass, Coupling, and DC Blocking.

Typical circuit applications: HF Amplifiers, Switching Mode Power Supplies (SMPS), High Frequency SMPS Filters.

ENVIRONMENTAL TESTS

ATC 920 C 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. at 1 KHz.

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

INSULATION RESISTANCE (IR):
0.01 MFd to 1 MFd
1000 megohms min. @ +25°C at rated WVDC.
100 megohms min. @ +125°C at rated WVDC.

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

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

AGING EFFECTS: 3% maximum per decade hour.

PIEZOELECTRIC EFFECTS: Negligible

DIELECTRIC ABSORPTION: 2% typical

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

TERMINATION STYLE: W Termination – Solder Plate.
T Termination – Tin Plated over Nickel Barrier
TN Termination – Tin Plated over Non-Magnetic Barrier
CN Termination (Non-Magnetic) Palladium Silver
See Mechanical Configuration Table, page 2.

TERMINAL STRENGTH: Terminations for chips, withstand a pull of 10 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.

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THE ENGINEERS' CHOICE®
ISO 9001 REGISTERED

ATC 920 C Capacitance Values

CAP. CODE	CAP. (MFd)	TOL.	RATED WVDC	CAP. CODE	CAP. (MFd)	TOL.	RATED WVDC
103	.010	K, M	300	224	.22	K, M	200
153	.015			334	.33		150
223	.022			474	.47		
333	.033		250	684	.68		
473	.047			824	82		100
683	.068			105	1.0		
104	.10		200	–	–		–
154	.15			–	–		

VRMS = 0.707 X WVDC

ATC PART NUMBER CODE

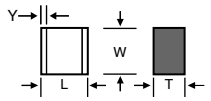
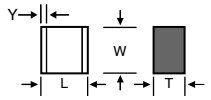
ATC 920 C 10 5 M W 100 T

- Series
- Case Size
- Capacitance Code: First 2 significant digits for capacitance.
- Indicates number of zeros following digits of capacitance in picofarads except for decimal values.
- Capacitance Tolerance See Table at right
- Termination Code
- WVDC
- Packaging: T - Tape and Reel; S - Strip Tape

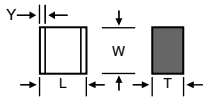
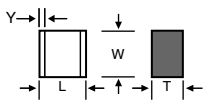
CAPACITANCE TOLERANCE		
Code	K	M
Tol.	±10%	±20%

The above part number refers to a 920 C Series (case size C) 1.0 MFd capacitor, M tolerance (±20%), 100 WVDC, with W termination (solder plate) and Tape and Reel Packaging.

ATC 920 C Capacitors: Mechanical Configurations

ATC SERIES & CASE SIZE	ATC TERM. CODE	CASE SIZE & TYPE	OUTLINES W/T IS A TERMINATION SURFACE	BODY DIMENSIONS – Inches (mm) LENGTH (L)	WIDTH (W)	THICKNESS (T)	LEAD AND TERMINATION DIMENSIONS AND MATERIALS OVERLAP (Y)	MATERIALS
920C	W	C Solder Plate		0.22 +.020 -.010 (5.58 +0.51 -0.25)	.250 ±.01 (6.35 ±0.25)	.157 (3.98) max.	.045 (1.14) max.	***SOLDER PLATE*** Nickel barrier, solder plated. Rugged high performance termination for lower cost, high volume applications
920C	T	C Solderable Nickel Barrier		0.22 +.020 -.010 (5.58 +0.51 -0.25)	.250 ±.01 (6.35 ±0.25)	.157 (3.98) max.	.045 (1.14) max.	***RoHS Compliant*** Tin Plated over Nickel Barrier Termination

ATC 920 C 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) LENGTH (L)	WIDTH (W)	THICKNESS (T)	LEAD AND TERMINATION DIMENSIONS AND MATERIALS OVERLAP (Y)	MATERIALS
920C	CN	C Non-Mag Chip		0.22 +.020 -.010 (5.58 +0.51 -0.25)	.250 ±.01 (6.35 ±0.25)	.157 (3.98) max	.045 (1.14) max.	***NON-MAGNETIC*** PALLADIUM SILVER TERMINATIONS
920C	TN	C Non-Mag Solderable Nickel Barrier		0.22 +.020 -.010 (5.58 +0.51 -0.25)	.250 ±.01 (6.35 ±0.25)	.157 (3.98) max.	.045 (1.14) max.	***RoHS Compliant*** Tin Plated over Non-Magnetic Barrier Termination

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.

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