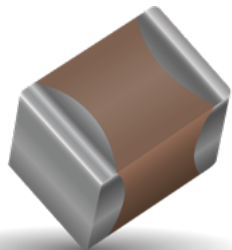


# RF/Microwave Capacitors

## RF/Microwave Multilayer Capacitors (MLC)

### 920C Series X7R Ceramic RF Power Multilayer Capacitors



#### GENERAL DESCRIPTION

KYOCERA AVX's 920C Series MLC capacitors offer superior quality at a competitive price. This MLC Series is manufactured for KYOCERA AVX in accordance with KYOCERA AVX'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.

#### FEATURES

- Case C Size (.250" x .250")
- Low ESR / ESL
- Rugged Construction
- Encapsulation with Encapsulation Option\*
- Capacitance Range 0.01 $\mu$ F to 1  $\mu$ F
- Mid-K
- High Reliability

#### FUNCTIONAL APPLICATIONS

- Bypass
- DC Blocking
- Coupling

#### CIRCUIT APPLICATIONS

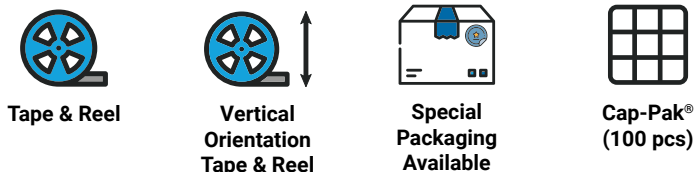
- HF Amplifiers
- Switch Mode Power Supplies
- High Frequency SMPS Filters

\*For leaded styles only.

#### ENVIRONMENTAL CHARACTERISTICS

<b>Thermal Shock</b>	MIL-STD-202, Method 107, Condition A.
<b>Moisture Resistance</b>	MIL-STD-202, Method 106.
<b>Low Voltage Humidity</b>	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.
<b>Life Test</b>	MIL-STD-202, Method 108, for 2000 hours, at 125°C. 200% WVDC applied.
<b>Solderability</b>	MIL-STD-202, Method 208

#### PACKAGING OPTIONS



#### ELECTRICAL SPECIFICATIONS

<b>Dissipation Factor (DF)</b>	2.5% max. at 1 KHz
<b>Temperature Coefficient of Capacitance (Tcc)</b>	Less than $\pm 15\%$ (-55°C to +125°C)
<b>Insulation Resistance (IR)</b>	0.01 MFd to 1 MFd 1000 megohms min. @ +25°C at rated WVDC. 100 megohms min. @ +125°C at rated WVDC.
<b>Working Voltage (WVDC)</b>	See Capacitance Values Table
<b>Dielectric Withstanding Voltage (DWV)</b>	Case C: 250% of rated WVDC for 5 secs.
<b>Aging Effects</b>	3% maximum per decade hour
<b>Piezoelectric Effects</b>	Negligible
<b>Dielectric Absorption</b>	2% typical
<b>Operating Temperature Range</b>	-55°C to +125°C (No derating of working voltage)
<b>Termination Styles</b>	Available in various surface mount and leaded styles. See Mechanical Configurations
<b>Terminal Strength</b>	Terminations for chips and pellets withstand a pull of 10 lbs. min., 15lbs. 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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## RF/Microwave Multilayer Capacitors (MLC)

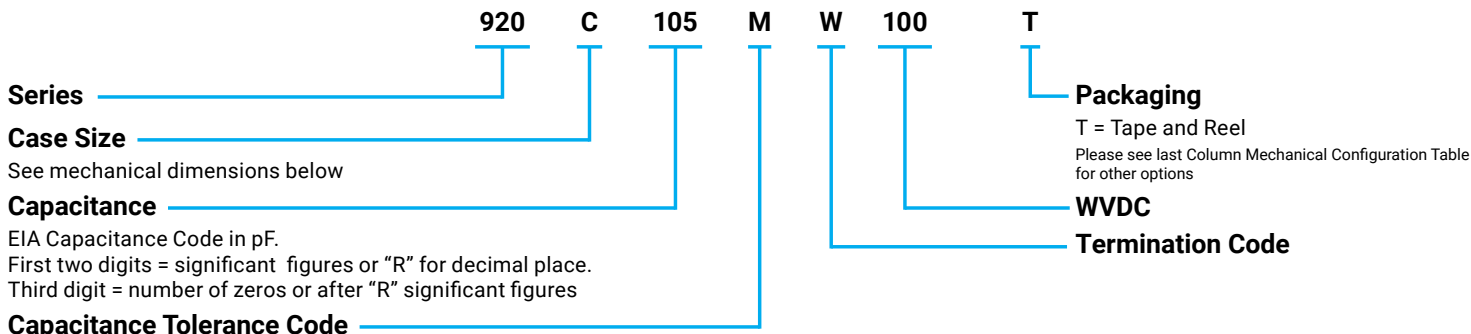
### 920C Series X7R Ceramic RF Power Multilayer Capacitors



## 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		100
473	.047			824	82		
683	.068			105	1.0		
104	.10		200	-	-		-
154	.15			-	-		

## HOW TO ORDER



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.

## MECHANICAL CONFIGURATIONS

Series & Case Size	Term. Code	Case Size & Type	Outlines W/T Is A Termination Surface	Body Dimensions Inches (mm)			Lead And Termination Dimensions and Materials		Pkg Type & Qty	Pkg Code
				Length (L)	Width (W)	Thickness (T)	Overlap (Y)	Materials		
920C	W	C Solder Plate		0.22+0.020 -0.010 (5.58+0.51 -0.25)	.250 ±0.015 (6.35 ±0.38)	.157 (3.98) max.	.040 (1.02) max.	<b>SOLDER PLATE</b> Nickel barrier, solder plated. Rugged high performance termination for lower cost, high volume applications	T & R 500 Tray Pak 36	T J36
920C	T	C Solderable Nickel Barrier		0.22+0.020 -0.010 (5.58+0.51 -0.25)	.250 ±0.01 (6.35 ±0.25)	.157 (3.98) max.		<b>RoHS Compliant</b> Tin Plated over Nickel Barrier Termination	T & R 500 Tray Pak 36	T J36

## NON-MAGNETIC MECHANICAL CONFIGURATIONS

Series & Case Size	Term. Code	Case Size & Type	Outlines W/T Is A Termination Surface	Body Dimensions Inches (mm)			Lead And Termination Dimensions and Materials		Pkg Type & Qty	Pkg Code
				Length (L)	Width (W)	Thickness (T)	Overlap (Y)	Materials		
920C	CN	C Non-Mag Chip		0.22+0.020 -0.010 (5.58+0.51 -0.25)	.250 ±0.01 (6.35 ±0.25)	.157 (3.98) max.	.045 (1.14) max.	<b>NON-MAGNETIC PALLADIUM SILVER TERMINATIONS</b>	T & R 500 Tray Pak 36	T J36
920C	TN	C Non-Mag Solderable Nickel Barrier		0.22+0.020 -0.010 (5.58+0.51 -0.25)	.250 ±0.01 (6.35 ±0.25)	.157 (3.98) max.	.045 (1.14) max.	RoHS Compliant Tin Plated over Non-Magnetic L T Barrier Termination	T & R 500 Tray Pak 36	T J36