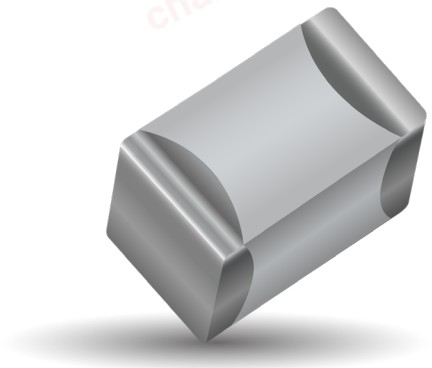
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RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

200B Series BX Ceramic



FEATURES

- Case B Size (.110" x .110")
- Lowest ESR/ESL
- Rugged Construction
- Extended WVDC Available
- Capacitance Range 5000 pF to 0.1 µF
- Mid-K
- High Reliability

GENERAL DESCRIPTION

KYOCERA AVX, the industry leader, offers new improved ESR/ESL performance for the 200 B 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.

PACKAGING OPTIONS



Tape & Reel



Vertical Orientation Tape & Reel



Cap-Pak® (100 pcs)

ELECTRICAL SPECIFICATIONS

Temperature Coefficient (TCC)	±15% maximum (-55°C to +125°C)
Capacitance Range	510 pF to 0.01 µF
Operating Temperature	From -55°C to +125°C (No derating of working voltage).
Dissipation Factor	2.5% max. @ 1 KHz
Insulation Resistance (IR)	5000 pF to 0.1 MFd: 10^4 Megohms min. @ +25°C at rated WVDC. 10^3 Megohms min. @ +125°C at rated WVDC.
Dielectric Absorption	2% Typical
Working Voltage (WVDC)	See Capacitance Values table
Dielectric Withstanding Voltage (DWV)	Case B: 250% of rated WVDC for 5 secs.
Aging Effects	3% maximum per decade hour.
Piezoelectric Effects	Negligible
Capacitance Drift	± (0.02% or 0.02 pF), whichever is greater

ENVIRONMENTAL CHARACTERISTICS

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.
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

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200B Series BX Ceramic

CAPACITANCE VALUES

CAP. CODE	CAP. (pF)	TOL.	RATED WVDC		CAP. CODE	CAP. (pF)	TOL.	RATED WVDC	
			STD	EXT.*				STD	EXT.*
502	5000	K, M, N	50	VOLTAGE 100 EXTENDED	273	27,000	K, M, N	50	VOLTAGE 100 EXTENDED
562	5600				333	33,000			
682	6800				393	39,000			
822	8200				473	47,000			
103	10,000				503	50,000			
123	12,000				563	56,000			
153	15,000				683	68,000			
183	18,000				823	82,000			
203	20,000				104	100,000			
223	22,000								

VRMS = 0.707 x WVDC
• SPECIAL VALUES, TOLERANCES, HIGHER WVDC AND MATCHING AVAILABLE. PLEASE CONSULT FACTORY.
* Extended WVDC offereing meets X7R characteristics

HOW TO ORDER

200 B 822 M W 50 X T

Series

Case Size

Capacitance

EIA Capacitance Code in pF.
First two digits = significant figures or "R" for decimal place.
Third digit = number of zeros or after "R" significant figures

Capacitance Tolerance Code

Code	K	M	N
Tol.	±10%	±20%	±30%

Termination Style Code

Please see 2nd Column Mechanical Configuration Table

Packaging

T = Tape and Reel, 500 pc qty.
TV = Vertical Orientation of Product Tape and Reel, 500 pc qty.
Please see last Column Mechanical Configuration Table for other options

Laser Marking (Optional)

WVDC

The above part number refers to a 200 B Series (case size B) 8200 pF capacitor,
M tolerance (±20%), 50 WVDC, with W termination (Tin / Lead, Solder Plated over Nickel Barrier), laser marking and KYOCERA AVX Cap-Pac® packaging.

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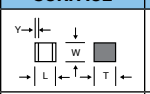
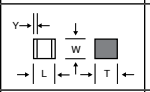
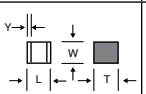
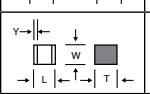
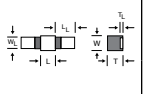
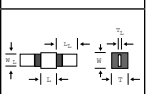
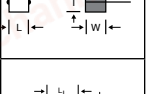
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RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

200B Series BX Ceramic

MECHANICAL CONFIGURATION

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	Pkg Code
				LENGTH (L)	WIDTH (W)	THICKNESS (T)	OVERLAP (Y)	MATERIALS			
200B	W	B Solder Plate		.110 +.020 -.010 (2.79 +0.51 -0.25)	.110 ±.015 (2.79 ±0.38)	.102 (2.59) max.	.015 (0.38) ±.010 (0.25) max.	Tin/Lead, Solder Plated over Nickel Barrier Termination		T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	P	B Pellet		.110 +.035 -.010 (2.79 +0.89 -0.25)	.110 ±.015 (2.79 ±0.38)	.102 (2.59)		Heavy Tin/Lead Coated, over Nickel Barrier Termination		T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	T	B Solderable Nickel Barrier		.110 +.020 -.010 (2.79 +0.51 -0.25)	.110 ±.015 (2.79 ±0.38)	.102 (2.59)		RoHS Compliant Tin Plated over Nickel Barrier Termination		T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	CA	B Gold Chip		.110 +.020 -.010 (2.79 +0.51 -0.25)	.110 ±.015 (2.79 ±0.38)	.102 (2.59)		RoHS Compliant Gold Plated over Nickel Barrier Termination		T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	MS	B Microstrip		.135 ±.015 (3.43 ±0.38)	.110 ±.015 (2.79 ±0.38)	.120 (3.05) max.	N/A	Length (LL)	Width (WL) / Thickness (TL)	Cap Pac, 20 pcs	C20
200B	AR	B Axial Ribbon				.100 (2.54) max.		.250 (6.35) min.	.093 ±. 005 (2.36 ± 0.13) / .004 ± .001 (.102 ± .025)	Box, 20 or 100 pcs	B20 or B100
200B	RR	B Radial Ribbon								Box, 20 or 100 pcs	B20 or B100
200B	RW	B Radial Wire		.145 ±.020 (3.68 ±0.51)				.500 (12.7)	#26 AWG., .016 (.406) dia. nominal	Box, 20 or 100 pcs	B20 or B100
200B	AW	B Axial Wire								Box, 20 or 100 pcs	B20 or B100

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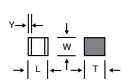
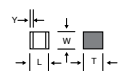
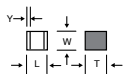
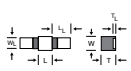
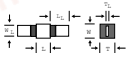
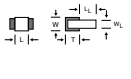
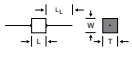
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RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

200B Series BX Ceramic

NON-MECHANICAL CONFIGURATION

SERIES & CASE SIZE	TERM. CODE	MIL-PRF-55681	CASE SIZE & TYPE	OUTLINES W/T IS A TERMINATION SURFACE	BODY DIMENSIONS INCHES (mm			LEAD AND TERMINATION DIMENSIONS AND MATERIALS				Pkg Type	Pkg Code
					LENGTH (L)	WIDTH (W)	THICKNESS (T)	OVERLAP (Y)	MATERIALS				
200B	WN	Meets Rqmts.	B Non-Mag Solder Plate		.110+.025 -.010 (2.79 +0.64 -0.25)	.110 ±.015 (2.79 ±0.38)	.102 (2.59) max..	.015 (0.38) ±.010 (0.25)	Tin/Lead, Solder Plated over Non-Magnetic Barrier Termination			T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	PN	Meets Rqmts.	B Non-Mag Pellet		.110+.035 -.010 (2.79 +0.89 -0.25)	.110 ±.015 (2.79 ±0.38)			Heavy Tin/Lead, Coated over Non-Magnetic Barrier Termination			T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	TN	Meets Rqmts.	B Non-Mag Solderable Barrier		.110+.025 -.010 (2.79 +0.64 -0.25)	.110 ±.015 (2.79 ±0.38)			RoHS Compliant Tin Plated over Non-Magnetic Barrier Termination			T&R, 1000 or 500 pcs Vertical T&R, 1000 pcs or 500 pcs Cap Pac, 100 pcs	T1K or T TV1K or TV C100
200B	MN	Meets Rqmts.	B Non-Mag Microstrip		.135 ±.015 (3.43 ±0.38)	.110 ±.015 (2.79 ±0.38)	.120 (3.05) max.	N/A	Length (LL)	Width (WL)	Thickness (TL)	Cap Pac, 20 pcs	C20
200B	AN	Meets Rqmts.	B Non-Mag Axial Ribbon				.100 (2.54) max.		.250 (6.35) min.	.093 ± .005 (2.36 ± 0.13)	.004 ± . 001 (.102 ± .025)	Box, 20 or 100 pcs	B20 or B100
200B	FN	Meets Rqmts.	B Non-Mag Radial Ribbon									Box, 20 or 100 pcs	B20 or B100
200B	RN	Meets Rqmts.	B Non-Mag Axial Wire		.145 ±.020 (3.68 ±0.51)				.500 (12.7) min.	#26 AWG., .016 (.406) dia. nominal		Box, 20 or 100 pcs	B20 or B100
200B	BN	Meets Rqmts.	B Non-Mag RadialWire									Box, 20 or 100 pcs	B20 or B100

Additional lead styles available: Narrow Microstrip (DN), Narrow Axial Ribbon (GN) and Vertical Narrow Microstrip (HN). Other lead lengths are available; consult factory.
All leads are high purity silver attached with high temperature solder and are RoHS compliant.

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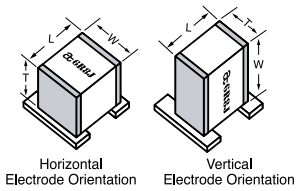
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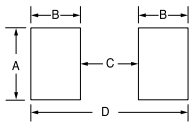
RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

200B Series BX Ceramic

SUGGESTED MOUNTING PAD DIMENSIONS





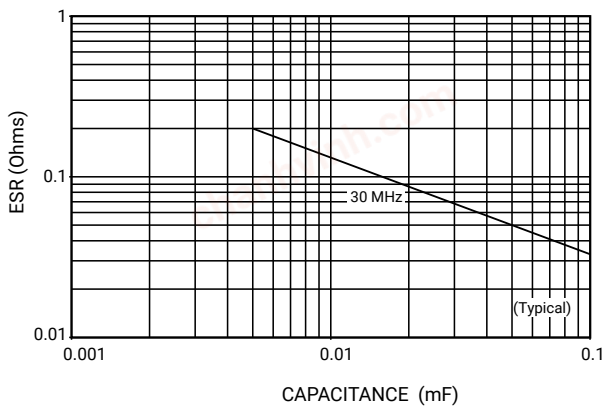
Dimensions are in inches.

	Pad Size	A Min.	B Min.	C Min.	D Min.
All Values	Normal	.120	.050	.075	.175
	High Density	.100	.030	.075	.135

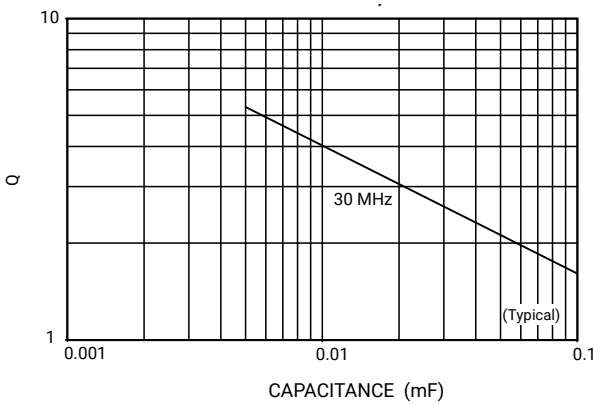
Horizontal Mount					
	Pad Size	A Min.	B Min.	C Min.	D Min.
All Values	Normal	.130	.050	.075	.175
	High Density	.110	.030	.075	.135

PERFORMANCE DATA

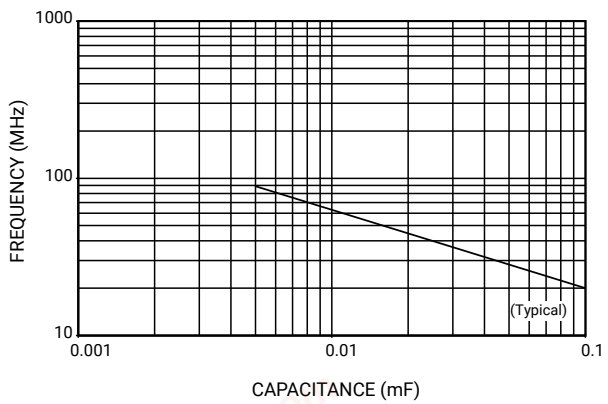
ESR VS. CAPACITANCE
KYOCERA AVX SERIES 200, CASE B



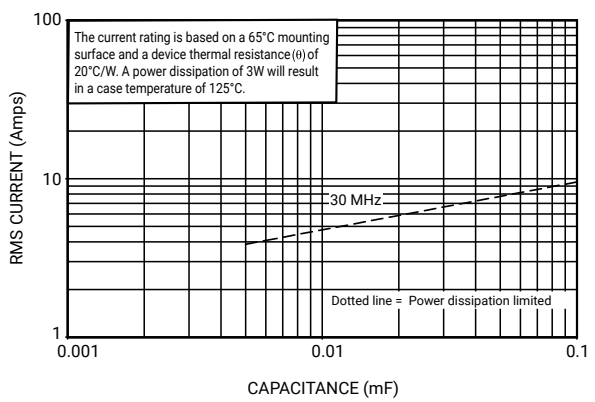
Q VS. CAPACITANCE
KYOCERA AVX SERIES 200, CASE B



SERIES RESONANCE VS. CAPACITANCE
KYOCERA AVX SERIES 200, CASE B



CURRENT RATING VS. CAPACITANCE
KYOCERA AVX SERIES 200, CASE B



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