Axial Leads/Ceralam®

GENERAL DESCRIPTION

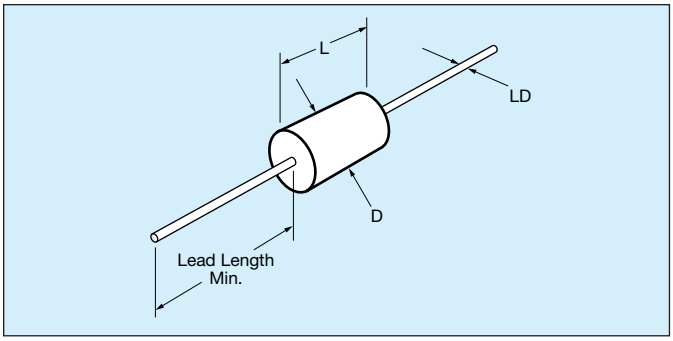
AVX MA Series

Molded Axial Leaded MLC

Temperature Coefficient: C0G (NP0), X7R, Z5U
50V, 100V and 200V

Case Material: Molded Epoxy

Lead Material: Solderable



HOW TO ORDER

MA10	5	E	104	Z	A	A
Molded Axial Size	**Voltage**	**Dielectric**	**Capacitance**	**Capacitance Tolerance**	**Failure Rate**	**Leads**
MA10 MA20 MA30 MA40 MA50 MA60	5 = 50V 1 = 100V 2 = 200V	A = C0G (NP0) C = X7R E = Z5U	First two digits are the significant figures of capacitance. Third digit indicates the additional number of zeros. For example, order 100,000 pF as 104. (For values below 10pF use "R" in place of decimal point, e.g., 1R4 = 1.4pF.)	C0G (NP0): F = ±1% J = ±5% K = ±10% M = ±20% D = ±5.pF <10pF only X7R: J = ±5% K = ±10% M = ±20% Z5U: M = ±20% Z = +80% -20%	A = Not Applicable	A = Standard

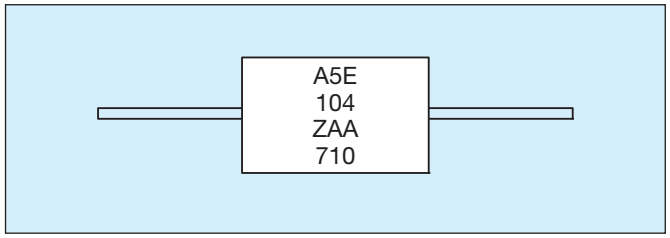
‡ C tolerance available C0G (NP0) from 1.0 to 9.1 pF only. Minimum tolerance for values 10 pF - 100 pF is D or F whichever is greater.

MARKING (EXAMPLE)

Line 1, A (for AVX), 5 = 50 Volts (V is optional),
E = TC Line 2, 104Z = Capacitance Code

Line 3, Tolerance, 2 digit Lot Code
Date Code: 7 = 2007
10 = Week

Four Digit Date Code Optional



MILITARY CROSS REFERENCE AND DIMENSIONS GUIDE

Per MIL-Spec				Case Size		
AVX Style	**MIL-C-11015**	**MIL-PRF-39014**	**MIL-PRF-20**	**Length (L)**	**Diameter (D)**	**Lead Diameter (LD)**
MA10	CK12	CKR11	CCR75/CC75	4.07 ± .25 (.160" ± .010")	2.29 ± .25 (.090" ± .010")	.48 ± .05 (.019" ± .002")
MA20	CK13	CKR12	CCR76/CC76	6.35 ± .25 (.250" ± .010")	2.29 ± .25 (.090" ± .010")	.48 ± .05 (.019" ± .002")
MA40	CK14	CKR14	CCR77/CC77	9.91 ± .25 (.390" ± .010")	3.56 ± .25 (.140" ± .010")	.63 ± .05 (.025" ± .002")
MA50	CK15	CKR15	CCR78/CC78	12.7 ± .51 (.500" ± .020")	6.35 ± .38 (.250" ± .015")	.63 ± .05 (.025" ± .002")
MA60	CK16	CKR16	CCR79/CC79	17.53 ± .51 (.690" ± .020")	8.89 ± .51 (.350" ± .015")	.63 ± .05 (.025" ± .002")

For Military/Established Reliability Molded/Axial Lead see MIL-C-11015, MIL-PRF-39014, MIL-PRF-20 Section.

Dimensions: Millimeters (Inches)

Axial Leads/Ceralam®

C0G (NP0) Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)

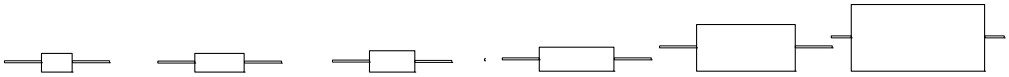
	AVX Style	MA10			MA20			MA30			MA40			MA50			MA60		
	Length	4.07 ± .25 (.160" ± .010")			6.35 ± .25 (.250" ± .010")			6.09 ± .25 (.240" ± .010")			9.91 ± .25 (.390" ± .010")			12.7 ± .51 (.500" ± .020")			17.53 ± .51 (.690" ± .020")		
	Diameter	2.29 ± .25 (.090" ± .010")			2.29 ± .25 (.090" ± .010")			3.30 ± .25 (.130" ± .010")			3.56 ± .25 (.140" ± .010")			6.35 ± .38 (.250" ± .015")			8.89 ± .51 (.350" ± .015")		
	Lead Diameter	.48 ± .05 (.019" ± .002")			.48 ± .05 (.019" ± .002")			.48 ± .05 (.019" ± .002")			.63 ± .05 (.025" ± .002")			.63 ± .05 (.025" ± .002")			.63 ± .05 (.025" ± .002")		
	Lead Length	25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")		
Cap. in pF	Typical AVX Part Nos.	WVDC 200	100	50	WVDC 200	100	50	WVDC 200	100	50	WVDC 200	100	50	WVDC 200	100	50	WVDC 200	100	50
1.0 to 9.1	MA-----5A1R0DAA MA-----5A9R1DAA																		
10 12 15	MA-----5A100KAA MA-----5A120KAA MA-----5A150KAA																		
18 22 27	MA-----5A180KAA MA-----5A220KAA MA-----5A270KAA																		
33 39 47	MA-----5A330KAA MA-----5A390KAA MA-----5A470KAA																		
56 68 82	MA-----5A560KAA MA-----5A680KAA MA-----5A820KAA																		
100 120 150	MA-----5A101KAA MA-----5A121KAA MA-----5A151KAA																		
180 220 270	MA-----5A181KAA MA-----5A221KAA MA-----5A271KAA																		
330 390 470	MA-----5A331KAA MA-----5A391KAA MA-----5A471KAA																		
560 680 820	MA-----5A561KAA MA-----5A681KAA MA-----5A821KAA																		
1000 1200 1500	MA-----5A102KAA MA-----5A122KAA MA-----5A152KAA																		
1800 2200 2700	MA-----5A182KAA MA-----5A222KAA MA-----5A272KAA																		
3300 3900 4700	MA-----5A332KAA MA-----5A392KAA MA-----5A472KAA																		
5600 6800 8200	MA-----5A562KAA MA-----5A682KAA MA-----5A822KAA																		
10,000 12,000 15,000	MA-----5A103KAA MA-----5A123KAA MA-----5A153KAA																		
18,000 22,000 27,000	MA-----5A183KAA MA-----5A223KAA MA-----5A273KAA																		
33,000 39,000 47,000	MA-----5A333KAA MA-----5A393KAA MA-----5A473KAA																		
56,000 68,000 82,000	MA-----5A563KAA MA-----5A683KAA MA-----5A823KAA																		
100,000 120,000 150,000	MA-----5A104KAA MA-----5A124KAA MA-----5A154KAA																		

For other tolerances see Part No. Codes
For other voltages see Part No. Codes.
AVX Style

Axial Leads/Ceralam®

X7R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

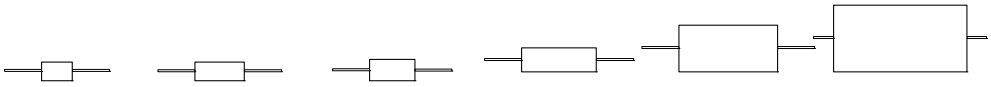
AVX Style	MA10			MA20			MA30			MA40			MA50			MA60		
Length	4.07 ± .25 (.160" ± .010")			6.35 ± .25 (.250" ± .010")			6.09 ± .25 (.240" ± .010")			9.91 ± .25 (.390" ± .010")			12.7 ± .51 (.500" ± .020")			17.53 ± .51 (.690" ± .020")		
Diameter	2.29 ± .25 (.090" ± .010")			2.29 ± .25 (.090" ± .010")			3.30 ± .25 (.130" ± .010")			3.56 ± .25 (.140" ± .010")			6.35 ± .38 (.250" ± .015")			8.89 ± .51 (.350" ± .015")		
Lead Diameter	.48 ± .05 (.019" ± .002")			.48 ± .05 (.019" ± .002")			.48 ± .05 (.019" ± .002")			.63 ± .05 (.025" ± .002")			.63 ± .05 (.025" ± .002")			.63 ± .05 (.025" ± .002")		
Lead Length	25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")		
Cap. in pF / Typical AVX Part Nos.	WVDC			WVDC			WVDC			WVDC			WVDC			WVDC		
	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50
220 MA____5C221KAA 270 MA____5C271KAA																		
330 MA____5C331KAA 390 MA____5C391KAA 470 MA____5C471KAA																		
560 MA____5C561KAA 680 MA____5C681KAA 820 MA____5C821KAA																		
1000 MA____5C102KAA 1200 MA____5C122KAA 1500 MA____5C152KAA																		
1800 MA____5C182KAA 2200 MA____5C222KAA 2700 MA____5C272KAA																		
3300 MA____5C332KAA 3900 MA____5C392KAA 4700 MA____5C472KAA																		
5600 MA____5C562KAA 6800 MA____5C682KAA 8200 MA____5C822KAA																		
10,000 MA____5C103KAA 12,000 MA____5C123KAA 15,000 MA____5C153KAA																		
18,000 MA____5C183KAA 22,000 MA____5C223KAA 27,000 MA____5C273KAA																		
33,000 MA____5C333KAA 39,000 MA____5C393KAA 47,000 MA____5C473KAA																		
56,000 MA____5C563KAA 68,000 MA____5C683KAA 82,000 MA____5C823KAA																		
100,000 MA____5C104KAA 120,000 MA____5C124KAA 150,000 MA____5C154KAA																		
180,000 MA____5C184KAA 220,000 MA____5C224KAA 270,000 MA____5C274KAA																		
330,000 MA____5C334KAA 390,000 MA____5C394KAA 470,000 MA____5C474KAA																		
560,000 MA____5C564KAA 680,000 MA____5C684KAA 820,000 MA____5C824KAA																		
1.0 µF MA____5C105KAA 1.2 µF MA____5C125KAA 1.5 µF MA____5C155KAA																		
1.8 µF MA____5C185KAA 2.2 µF MA____5C225KAA 2.7 µF MA____5C275KAA																		
3.3 µF MA____5C335KAA 3.9 µF MA____5C395KAA																		

For other tolerances see Part No. Codes
For other voltages see Part No. Codes.
AVX Style

Axial Leads/Ceralam®

Z5U Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

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	Lead Length	25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")			25.4 (1.00")		
Cap. in pF	Typical AVX Part Nos.	WVDC			WVDC			WVDC			WVDC			WVDC			WVDC		
		200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50
1000	MA____5E102ZAA	■	■	■															
1200	MA____5E122ZAA	■	■	■															
1500	MA____5E152ZAA	■	■	■															
1800	MA____5E182ZAA	■	■	■															
2200	MA____5E222ZAA	■	■	■															
2700	MA____5E272ZAA	■	■	■															
3300	MA____5E332ZAA	■	■	■	■	■	■												
3900	MA____5E392ZAA	■	■	■	■	■	■												
4700	MA____5E472ZAA	■	■	■	■	■	■												
5600	MA____5E562ZAA		■	■	■	■	■	■	■	■									
6800	MA____5E682ZAA		■	■	■	■	■	■	■	■									
8200	MA____5E822ZAA		■	■	■	■	■	■	■	■									
10,000	MA____5E103ZAA		■	■	■	■	■	■	■	■	■	■	■						
12,000	MA____5E123ZAA		■	■		■	■	■	■	■	■	■	■						
15,000	MA____5E153ZAA		■	■		■	■	■	■	■	■	■	■						
18,000	MA____5E183ZAA		■	■		■	■	■	■	■	■	■	■						
22,000	MA____5E223ZAA			■		■	■	■	■	■	■	■	■						
27,000	MA____5E273ZAA			■		■	■	■	■	■	■	■	■						
33,000	MA____5E333ZAA			■		■	■		■	■	■	■	■	■	■	■			
39,000	MA____5E393ZAA			■		■	■		■	■	■	■	■	■	■	■			
47,000	MA____5E473ZAA			■		■	■		■	■	■	■	■	■	■	■			
56,000	MA____5E563ZAA			■			■		■	■	■	■	■	■	■	■			
68,000	MA____5E683ZAA			■			■		■	■		■	■	■	■	■			
82,000	MA____5E823ZAA			■			■		■	■		■	■	■	■	■			
100,000	MA____5E104ZAA						■			■		■	■	■	■	■	■	■	■
120,000	MA____5E124ZAA						■			■		■	■	■	■	■	■	■	■
150,000	MA____5E154ZAA									■		■	■	■	■	■	■	■	■
180,000	MA____5E184ZAA									■		■	■		■	■	■	■	■
220,000	MA____5E224ZAA									■			■		■	■	■	■	■
270,000	MA____5E274ZAA									■			■		■	■	■	■	■
330,000	MA____5E334ZAA									■			■		■	■	■	■	■
390,000	MA____5E394ZAA									■			■		■	■	■	■	■
470,000	MA____5E474ZAA									■			■		■	■	■	■	■
560,000	MA____5E564ZAA												■			■	■	■	■
680,000	MA____5E684ZAA												■			■	■	■	■
820,000	MA____5E824ZAA												■			■	■	■	■
1.0 µF	MA____5E105ZAA															■		■	■
1.2 µF	MA____5E125ZAA															■		■	■
1.5 µF	MA____5E155ZAA															■		■	■
1.8 µF	MA____5E185ZAA															■		■	■
2.2 µF	MA____5E225ZAA															■		■	■
2.7 µF	MA____5E275ZAA																	■	■
3.3 µF	MA____5E335ZAA																		■
3.9 µF	MA____5E395ZAA																		■
4.7 µF	MA____5E475ZAA																		■
5.6 µF	MA____5E565ZAA																		■
6.8 µF	MA____5E685ZAA																		■
8.2 µF	MA____5E825ZAA																		■

For other tolerances see Part No. Codes
For other voltages see Part No. Codes.
AVX Style