

GENERAL DESCRIPTION

AVX MA Series

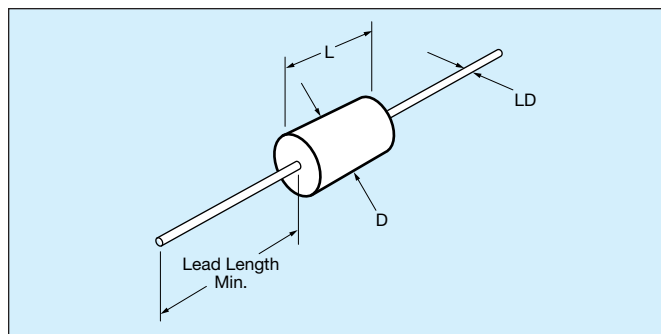
Molded Axial Leaded MLC

Temperature Coefficient: C0G (NP0), X7R, Z5U

50V, 100V and 200V

Case Material: Molded Epoxy

Lead Material: Solderable



HOW TO ORDER

MA10

Molded Axial Size

MA10
MA20
MA30
MA40
MA50
MA60

5

Voltage

5 = 50V
1 = 100V
2 = 200V

E

Dielectric

A = C0G (NP0)
C = X7R
E = Z5U

104

Capacitance

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.)

Z

Capacitance Tolerance

C0G (NP0):

F = ±1%

J = ±5%

K = ±10%

M = ±20%

D = ±0.5pF

<10pF only

X7R:

J = ±5%

K = ±10%

M = ±20%

Z5U:

M = ±20%

Z = +80%

-20%

A

Failure Rate

A = Not Applicable

A

Leads

A = Standard

Not RoHS Compliant

‡ 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)

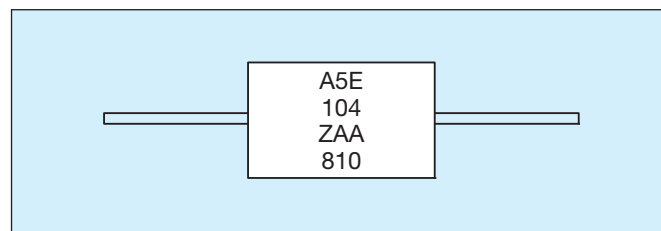
Line 1, A (for AVX), 5 = 50 Volts (V is optional),
E = TC Line 2, 104Z = Capacitance Code

Line 3, Tolerance, 2 digit Lot Code

Date Code: 8 = 2008

10 = Week

Four Digit Date Code Optional



MILITARY CROSS REFERENCE AND DIMENSIONS GUIDE

AVX Style	Per MIL-Spec			Case Size		
	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 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
1.0 to 9.1	MA.....5A1R0DAA MA.....5A9R1DAA																		
10 to 15	MA.....5A100KAA MA.....5A120KAA MA.....5A150KAA																		
18 to 27	MA.....5A180KAA MA.....5A220KAA MA.....5A270KAA																		
33 to 47	MA.....5A330KAA MA.....5A390KAA MA.....5A470KAA																		
56 to 82	MA.....5A560KAA MA.....5A680KAA MA.....5A820KAA																		
100 to 150	MA.....5A101KAA MA.....5A121KAA MA.....5A151KAA																		
180 to 270	MA.....5A181KAA MA.....5A221KAA MA.....5A271KAA																		
330 to 470	MA.....5A331KAA MA.....5A391KAA MA.....5A471KAA																		
560 to 820	MA.....5A561KAA MA.....5A681KAA MA.....5A821KAA																		
1000 to 1500	MA.....5A102KAA MA.....5A122KAA MA.....5A152KAA																		
1800 to 2700	MA.....5A182KAA MA.....5A222KAA MA.....5A272KAA																		
3300 to 4700	MA.....5A332KAA MA.....5A392KAA MA.....5A472KAA																		
5600 to 8200	MA.....5A562KAA MA.....5A682KAA MA.....5A822KAA																		
10,000 to 15,000	MA.....5A103KAA MA.....5A123KAA MA.....5A153KAA																		
18,000 to 27,000	MA.....5A183KAA MA.....5A223KAA MA.....5A273KAA																		
33,000 to 47,000	MA.....5A333KAA MA.....5A393KAA MA.....5A473KAA																		
56,000 to 82,000	MA.....5A563KAA MA.....5A683KAA MA.....5A823KAA																		
100,000 to 150,000	MA.....5A104KAA MA.....5A124KAA MA.....5A154KAA																		

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

AVX Style



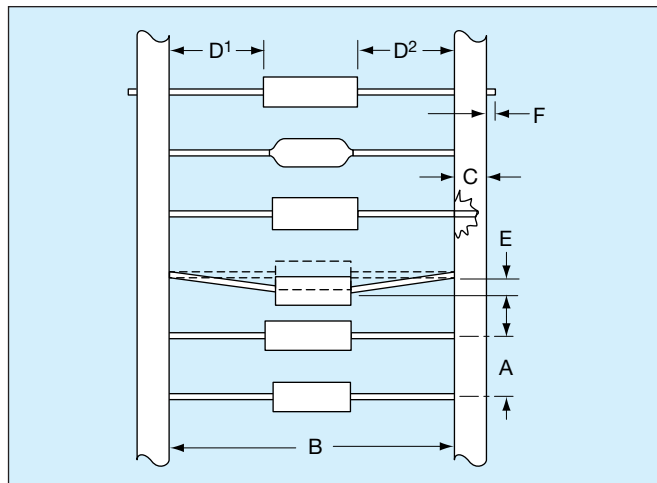
SIZE AND CAPACITANCE SPECIFICATIONS

[illegible]

48

TAPE AND REEL

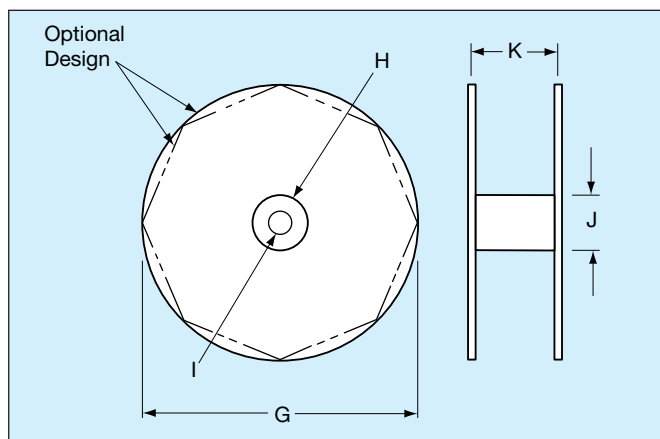
CLASS I / RS-296	
A.	5mm ± 0.5mm (.200" ± 0.020")
B*.	52.4mm ± 1.5mm (2.063" ± 0.059")
C.	6.35mm ± 0.4mm (0.250" ± 0.016")
D ¹ -D ² .	1.4mm (0.055" MAX.)
E.	1.2mm (0.047" MAX.)
F.	1.6mm (0.063" MAX.)
G.	356mm (14.00")
H.	76mm (3.000")
I.	25.4mm (1.000")
J.	84mm (3.300")
K.	70mm (2.750")



Leader Tape: 300mm min. (12")

Splicing: Tape Only

Missing Parts: 0.25% of component count max.-
No consecutive missing parts



REEL QUANTITIES (MAX.) ‡

SA05	7,500 pcs.	MA10	5,000 pcs.
SA10	7,500 pcs.	MA20	5,000 pcs.
SA11	5,000 pcs.	MA30	3,000 pcs.
SA20	5,000 pcs.	MA40	3,000 pcs.
SA30	5,000 pcs.	MA50	950 pcs.
SA40	5,000 pcs.	MA60	650 pcs.

‡ 1000 pc. reels available for distribution pack only in ±1% and ±2% tolerance.

* Standard Tape Spacing Shown. Also available in 26.0mm + 1.5mm, - 0mm, (1.023 in. + .059 in. - 0 in.) for SpinGuards only. EIA Class I, II and III tape spacings are available for molded axials. Tape spacing for Class II is 63.5mm ± 1.5mm (2.50 in ± .059 in), and for Class III 73mm ± 1.5mm (2.87 in ± .059 in)

ADDITIONAL PACKAGING AVAILABLE

AMMO PACK

Tape Spacing	SA05, SA10 SA20	SA11 SA30	SA40	BOX SIZES (Nominal)		
				L	W	H
52.4mm ± 1.5mm (2.062" ± .059")	4,000 pcs.	2000	2,000 pcs.	255mm (10.039")	73mm (2.874")	93mm (3.661")
26.0mm + 1.5mm - 0mm (1.023" + .059" - 0")	4,000 pcs.*	2000	2,000 pcs.*	255mm (10.039")	48mm (1.889")	113mm (4.448")

*SpinGuard only

BULK PACK (MOLDED AXIALS ONLY)

MA10 MA20 MA30 MA40	100 pcs. (bag)
MA50 MA60	50 pcs. (bag)