

GENERAL INFORMATION

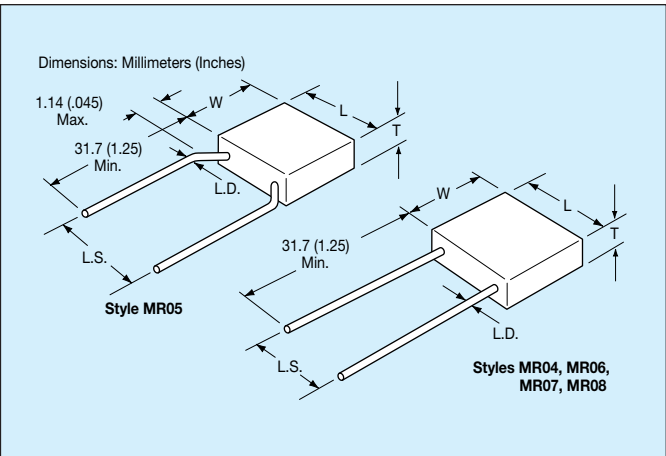
AVX MR Series

Molded Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U
50, 100, 200 Volts

Case Material: Molded Epoxy

Lead Material: Solderable



HOW TO ORDER

MR05	1	A	561	J	A	A
AVX Style	Voltage	Dielectric	Capacitance	Capacitance Tolerance	Failure Rate	Leads
MR04 MR05 MR06 MR07 MR08	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): D = $\pm 5\text{pF}$ ($>10\text{pF}$ only) F = $\pm 1\%$ ($>50\text{pF}$ only) G = $\pm 2\%$ ($>25\text{pF}$ only) J = $\pm 5\%$ K = $\pm 10\%$ X7R: J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$ Z5U: M = $\pm 20\%$ Z = $+80\%$ -20%	A = Not Applicable T = CECC	A = Standard Solderable (SnPb) T' = Trimmed Leads .230" $\pm$.030"

Not RoHS Compliant

¹ Trimmed lead length for the MR05 style will be measured from the bend in the lead (seating plane).

MARKING

Marking is as size permits.
(For code identification, see HOW TO ORDER section.)

- AVX
- Capacitance Tolerance
- Voltage Rating
- Temperature Coefficient
- Date Code
- Lot Code

PACKAGING REQUIREMENTS

Bulk Packaging: 1000 pcs. per sealed package except MR07/MR08 (300 pcs.).

Tape and Reel: Available on MR04, MR05, and MR06 only (2500 pcs./reel).

Ammo Packaging: Available on special request.

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)

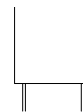
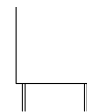
AVX Style		MR04			MR05			MR06			MR07			MR08		
Length*		4.83 (.190")			4.83 (.190")			7.36 (.290")			12.44 (.490")			12.44 (.490")		
Width*		4.83 (.190")			4.83 (.190")			7.36 (.290")			12.44 (.490")			12.44 (.490")		
Thickness*		2.28 (.090")			2.28 (.090")			2.28 (.090")			3.55 (.140")			6.09 (.240")		
Lead Spacing*		2.54 (.100")			5.08 (.200")			5.08 (.200")			10.16 (.400")			10.16 (.400")		
Lead Diameter*		.635 (.025")			.635 (.025")			.635 (.025")			.635 (.025")			.635 (.025")		
Cap. in pF	Typical AVX Part Nos.	WVDC			WVDC			WVDC			WVDC			WVDC		
		200	100	50	200	100	50	200	100	50	200	100	50	200	100	50
1.0 to 9.1	MR-----5A1R0DAA MR-----5A9R1DAA															
10 to 15	MR-----5A100KAA MR-----5A120KAA MR-----5A150KAA															
18 to 27	MR-----5A180KAA MR-----5A220KAA MR-----5A270KAA															
33 to 47	MR-----5A330KAA MR-----5A390KAA MR-----5A470KAA															
56 to 82	MR-----5A560KAA MR-----5A680KAA MR-----5A820KAA															
100 to 150	MR-----5A101KAA MR-----5A121KAA MR-----5A151KAA															
180 to 270	MR-----5A181KAA MR-----5A221KAA MR-----5A271KAA															
330 to 470	MR-----5A331KAA MR-----5A391KAA MR-----5A471KAA															
560 to 820	MR-----5A561KAA MR-----5A681KAA MR-----5A821KAA															
1000 to 1500	MR-----5A102KAA MR-----5A122KAA MR-----5A152KAA															
1800 to 2700	MR-----5A182KAA MR-----5A222KAA MR-----5A272KAA															
3300 to 4700	MR-----5A332KAA MR-----5A392KAA MR-----5A472KAA															
5600 to 8200	MR-----5A562KAA MR-----5A682KAA MR-----5A822KAA															
10,000 to 15,000	MR-----5A103KAA MR-----5A123KAA MR-----5A153KAA															
18,000 to 27,000	MR-----5A183KAA MR-----5A223KAA MR-----5A273KAA															
33,000 to 47,000	MR-----5A333KAA MR-----5A393KAA MR-----5A473KAA															
56,000 to 82,000	MR-----5A563KAA MR-----5A683KAA MR-----5A823KAA															
100,000 to 150,000	MR-----5A104KAA MR-----5A124KAA MR-----5A154KAA															

For trimmed leads see "How To Order".
For other tolerances see "How To Order".
For other voltages see "How To Order".

= Industry preferred values

*Length, width and thickness dimensions are ± 0.254 mm (± 0.010 "). Lead diameter is ± 0.05 mm (± 0.002 "). Lead spacing is ± 0.381 mm (± 0.015 ").

SIZE AND CAPACITANCE SPECIFICATIONS

[illegible]

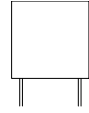
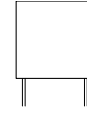
 = Industry preferred values

32



SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)



AVX Style		MR04		MR05		MR06		MR07		MR08	
Length*		4.83 (.190")		4.83 (.190")		7.36 (.290")		12.44 (.490")		12.44 (.490")	
Width*		4.83 (.190")		4.83 (.190")		7.36 (.290")		12.44 (.490")		12.44 (.490")	
Thickness*		2.28 (.090")		2.28 (.090")		2.28 (.090")		3.55 (.140")		6.09 (.240")	
Lead* Spacing		2.54 (.100")		5.08 (.200")		5.08 (.200")		10.16 (.400")		10.16 (.400")	
Lead* Diameter		.635 (.025")		.635 (.025")		.635 (.025")		.635 (.025")		.635 (.025")	
Cap. in pF	Typical AVX Part Nos.	WVDC		WVDC		WVDC		WVDC		WVDC	
		100	50	100	50	100	50	100	50	100	50
10,000 12,000 15,000	MR.....5E103ZAA MR.....5E123ZAA MR.....5E153ZAA										
18,000 22,000 27,000	MR.....5E183ZAA MR.....5E223ZAA MR.....5E273ZAA										
33,000 39,000 47,000	MR.....5E333ZAA MR.....5E393ZAA MR.....5E473ZAA										
56,000 68,000 82,000	MR.....5E563ZAA MR.....5E683ZAA MR.....5E823ZAA										
100,000 120,000 150,000	MR.....5E104ZAA MR.....5E124ZAA MR.....5E154ZAA										
180,000 220,000 270,000	MR.....5E184ZAA MR.....5E224ZAA MR.....5E274ZAA										
330,000 390,000 470,000	MR.....5E334ZAA MR.....5E394ZAA MR.....5E474ZAA										
560,000 680,000 820,000	MR.....5E564ZAA MR.....5E684ZAA MR.....5E824ZAA										
1.0 µF 1.2 µF 1.5 µF	MR.....5E105ZAA MR.....5E125ZAA MR.....5E155ZAA										
1.8 µF 2.2 µF 2.7 µF	MR.....5E185ZAA MR.....5E225ZAA MR.....5E275ZAA										
3.3 µF 3.9 µF 4.7 µF	MR.....5E335ZAA MR.....5E395ZAA MR.....5E475ZAA										
5.6 µF 6.8 µF 8.2 µF	MR.....5E565ZAA MR.....5E685ZAA MR.....5E825ZAA										
10.0 µF	MR.....5E106ZAA										

For trimmed leads see "How To Order".
For other tolerances see "How To Order".
For other voltages see "How To Order".

= Industry preferred values

*Length, width and thickness dimensions are ± 0.254 mm (± 0.010 "). Lead diameter is ± 0.05 mm (± 0.002 "). Lead spacing is ± 0.381 mm (± 0.015 ").

Radial Leads/Packaging

Tape and Reel



GENERAL INFORMATION

1. Standard reel diameter is 355 millimeters (14 inches) maximum.
2. Reeling standard (#1 or #2) should be specified when ordering.

HOW TO ORDER

To specify tape and reel packaging, add TR1, TR2 or TRX to the end of the AVX 12 digit part number.

Examples:

SR215C104KARTR1
SR305E105MARTR2
SR215C103JARTRX

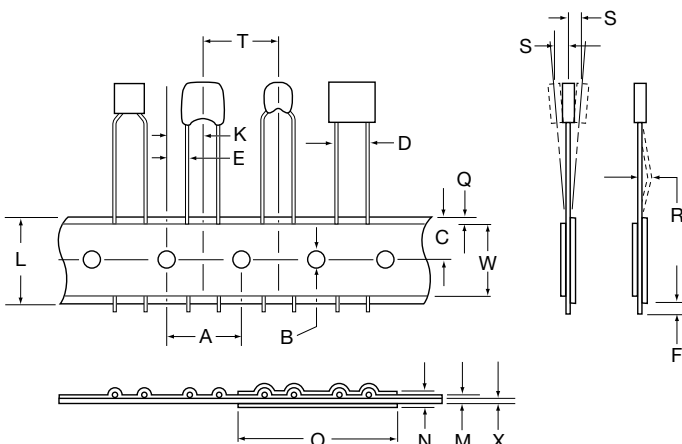
THE INSERTABLES



DESCRIPTION

DIMENSIONS (MM)

A. Feed Hole Pitch	12.70 ± .20
B. Feed Hole Diameter	3.99 ± .20
C. Feed Hole Location	9.02 ± .51
D. Component Lead Spacing	5.00 ⁺⁷⁹ _{-.20} or 2.54 ⁺⁷⁹ _{-.20}
E. Component Lead Location	3.81 ± .51 or 5.00 ± .51 for 2.54 lead spacing
F. Component Lead Protrusion (edge of carrier to cut end of lead)	2.00 maximum
K. Component Body Location	6.35 ± .41
L. Carrier Tape Width	18.01 ^{+1.02} _{-.51}
M. Carrier Tape Assembly Thickness	.71 ± .20
N. Carrier Tape Spliced Thickness	1.42 maximum
O. Carrier Tape Spliced Length	50.80 - 88.90
Q. Adhesive Tape Border	3.00 maximum
R. Component Bent Leads (either direction)	.79 maximum
S. Component Misalignment	.99 maximum
T. Component Pitch	12.70 ± .99
W. Adhesive Tape Width	5.00 minimum
X. Carrier Tape Thickness	.51 ± .10
Y. Cumulative Pitch over 20 Pitches	254 ± 2.00



Radial Leads/Packaging



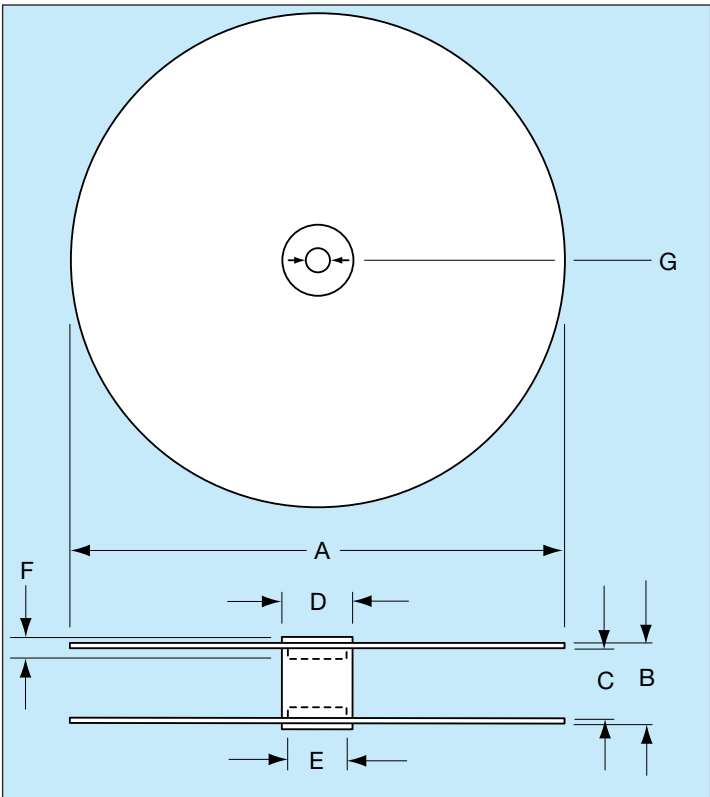
REEL DIRECTION



QUANTITY PER REEL SR/AR

PART	PCS
SR15, 07, 12	3500
SR20, 21, 23, 28 13, 29, 59, 62, 89	3000
SR30, 32, 40, 63, 64 65, 75	2000
MR05, 06	2500

*SL style available in all SR configurations.



DESCRIPTION

A – Reel Diameter
 B – Reel Outside Width
 C – Reel Inside Width
 D – Core Diameter (O.D.)
 E – Hub Recess Diameter
 F – Hub Recess Depth
 G – Arbor Hole Diameter

DIMENSIONS (MM)

304.80 - 355
 50.80 maximum
 38.10 - 46.02
 102.01 maximum
 86.36 maximum
 9.50 minimum
 25.40 - 30.48

CONVERSION TABLE

MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
.10	.004	1.52	.060	5.00	.197	9.91	.390	32.00	1.260
.20	.007	2.00	.079	5.08	.200	10.03	.395	38.10	1.500
.38	.015	2.54	.100	6.22	.245	10.16	.400	46.02	1.812
.41	.016	3.00	.118	6.35	.250	11.68	.460	50.80	2.000
.51	.020	3.18	.125	6.60	.260	12.50	.492	86.36	3.400
.71	.028	3.48	.137	6.99	.275	12.70	.500	88.90	3.500
.79	.031	3.81	.150	7.62	.300	16.00	.630	102.01	4.016
.99	.039	3.99	.157	8.89	.350	18.01	.709	254.00	10.000
1.02	.040	4.45	.175	9.02	.355	25.40	1.000	304.80	12.000
1.42	.056	4.98	.196	9.50	.374	30.48	1.200	355.00	14.000

