

GENERAL INFORMATION

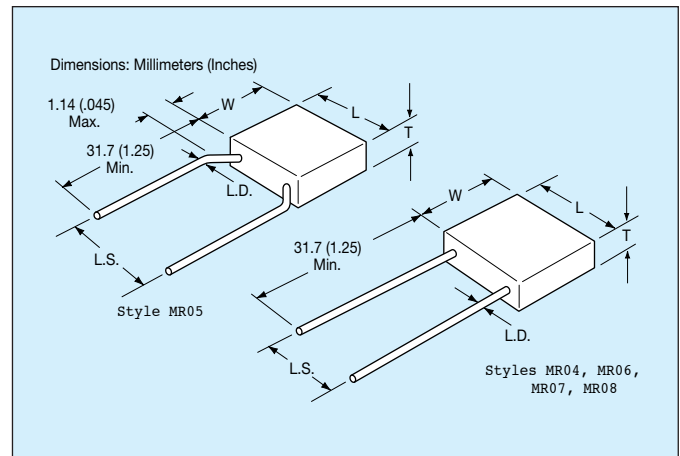
AVX MR Series

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 MR04 MR05 MR06 MR07 MR08	Voltage 5 = 50V 1 = 100V 2 = 200V	Dielectric A = C0G (NP0) C = X7R E = Z5U	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)	Capacitance Tolerance 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%	Failure Rate A = Not Applicable T = CECC	Leads 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)

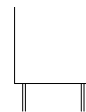
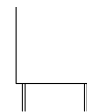
AVX Style		MR04			MR05			MR06			MR07			MR08		
Length*		4.83 (.190")			4.83 (.190")			7.36 (.290")			12.44 (.490")			12.44 (.490")		
Width*		4.83 (.190")			4.83 (.190")			7.36 (.290")			12.44 (.490")			12.44 (.490")		
Thickness*		2.28 (.090")			2.28 (.090")			2.28 (.090")			3.55 (.140")			6.09 (.240")		
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



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
100	MR.....5C101KAA															
120	MR.....5C121KAA															
150	MR.....5C151KAA															
180	MR.....5C181KAA															
220	MR.....5C221KAA															
270	MR.....5C271KAA															
330	MR.....5C331KAA															
390	MR.....5C391KAA															
470	MR.....5C471KAA															
560	MR.....5C561KAA															
680	MR.....5C681KAA															
820	MR.....5C821KAA															
1000	MR.....5C102KAA															
1200	MR.....5C122KAA															
1500	MR.....5C152KAA															
1800	MR.....5C182KAA															
2200	MR.....5C222KAA															
2700	MR.....5C272KAA															
3300	MR.....5C332KAA															
3900	MR.....5C392KAA															
4700	MR.....5C472KAA															
5600	MR.....5C562KAA															
6800	MR.....5C682KAA															
8200	MR.....5C822KAA															
10,000	MR.....5C103KAA															
12,000	MR.....5C123KAA															
15,000	MR.....5C153KAA															
18,000	MR.....5C183KAA															
22,000	MR.....5C223KAA															
27,000	MR.....5C273KAA															
33,000	MR.....5C333KAA															
39,000	MR.....5C393KAA															
47,000	MR.....5C473KAA															
56,000	MR.....5C563KAA															
68,000	MR.....5C683KAA															
82,000	MR.....5C823KAA															
100,000	MR.....5C104KAA															
120,000	MR.....5C124KAA															
150,000	MR.....5C154KAA															
180,000	MR.....5C184KAA															
220,000	MR.....5C224KAA															
270,000	MR.....5C274KAA															
330,000	MR.....5C334KAA															
390,000	MR.....5C394KAA															
470,000	MR.....5C474KAA															
560,000	MR.....5C564KAA															
680,000	MR.....5C684KAA															
820,000	MR.....5C824KAA															
1.0 µF	MR.....5C105KAA															
1.2 µF	MR.....5C125KAA															
1.5 µF	MR.....5C155KAA															
1.8 µF	MR.....5C185KAA															
2.0 µF	MR.....5C205KAA															
2.2 µF	MR.....5C225KAA															
2.7 µF	MR.....5C275KAA															
3.3 µF	MR.....5C335KAA															
3.9 µF	MR.....5C395KAA															
4.7 µF	MR.....5C475KAA															

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 ±.254 mm (±.010"). Lead diameter is ±.05 mm (±.002"). Lead spacing is ±.381 mm (±.015").

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	MR.....5E103ZAA										
12,000	MR.....5E123ZAA										
15,000	MR.....5E153ZAA										
18,000	MR.....5E183ZAA										
22,000	MR.....5E223ZAA										
27,000	MR.....5E273ZAA										
33,000	MR.....5E333ZAA										
39,000	MR.....5E393ZAA										
47,000	MR.....5E473ZAA										
56,000	MR.....5E563ZAA										
68,000	MR.....5E683ZAA										
82,000	MR.....5E823ZAA										
100,000	MR.....5E104ZAA										
120,000	MR.....5E124ZAA										
150,000	MR.....5E154ZAA										
180,000	MR.....5E184ZAA										
220,000	MR.....5E224ZAA										
270,000	MR.....5E274ZAA										
330,000	MR.....5E334ZAA										
390,000	MR.....5E394ZAA										
470,000	MR.....5E474ZAA										
560,000	MR.....5E564ZAA										
680,000	MR.....5E684ZAA										
820,000	MR.....5E824ZAA										
1.0 µF	MR.....5E105ZAA										
1.2 µF	MR.....5E125ZAA										
1.5 µF	MR.....5E155ZAA										
1.8 µF	MR.....5E185ZAA										
2.2 µF	MR.....5E225ZAA										
2.7 µF	MR.....5E275ZAA										
3.3 µF	MR.....5E335ZAA										
3.9 µF	MR.....5E395ZAA										
4.7 µF	MR.....5E475ZAA										
5.6 µF	MR.....5E565ZAA										
6.8 µF	MR.....5E685ZAA										
8.2 µF	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 ±.254 mm (±.010"). Lead diameter is ±.05 mm (±.002"). Lead spacing is ±.381 mm (±.015).

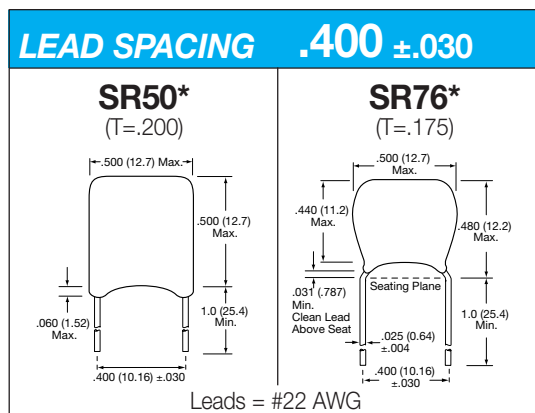
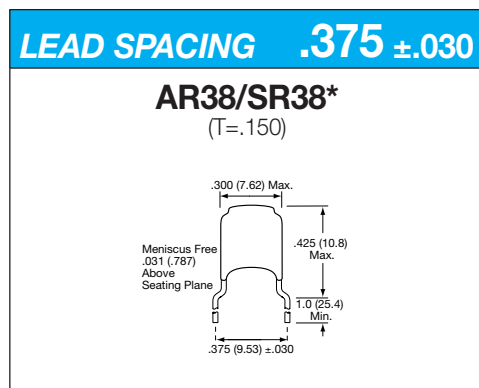
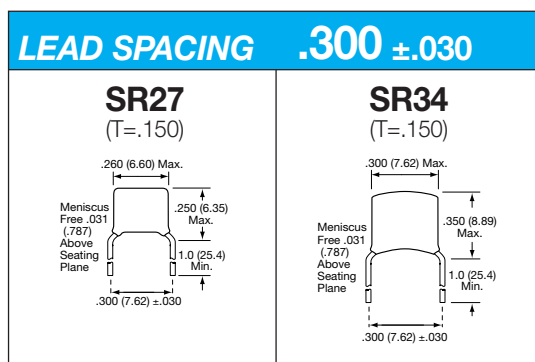
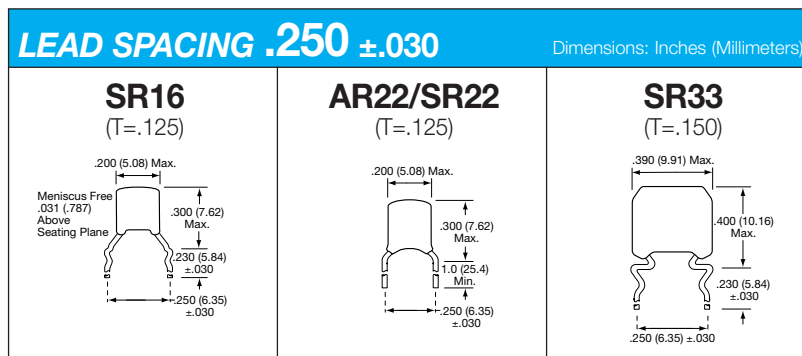
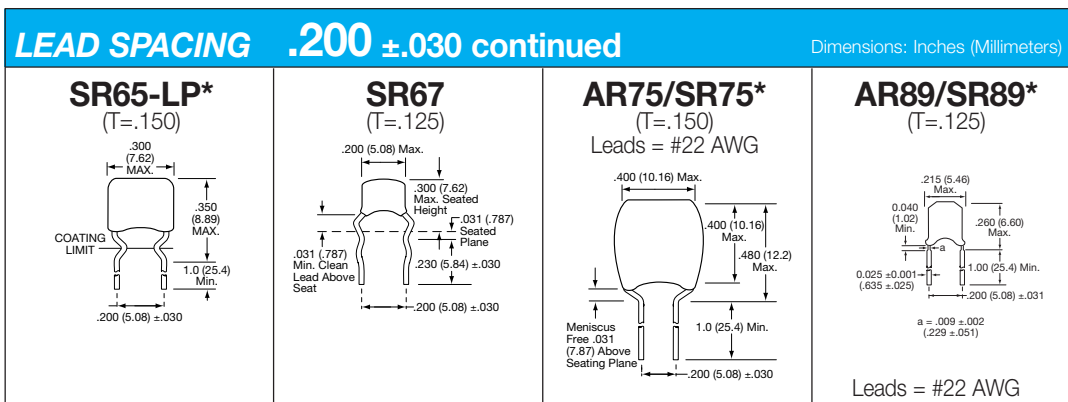
Configurations by Lead Spacing

LEAD SPACING $.100 \pm .030$				Dimensions: Inches (Millimeters)
AR07/SR07* (T=.100) 	AR14/SR14 (T=.100) 	AR15/SR15* (T=.100) 	AR20/SR20* (T=.125) 	
AR29/SR29* (T=.125) 	AR62/SR62* (T=.125) Leads = #22 AWG	SR62-LP* (T=.100) Leads = #22 AWG		

LEAD SPACING $.200 \pm .030$					Dimensions: Inches (Millimeters)
AR12/SR12* (T=.100) 	SR13* (T=.125) 	AR21/SR21* (T=.125) 	SR21-85* (T=.125) 	SR28* (T=.125) 	
AR30/SR30* (T=.150) 	SR30-LP* (T=.150) 	AR32/SR32* (T=.150) 	AR40/SR40* (T=.150) 	AR59/SR59* (T=.125) 	
SR61 (T=.150) 	SR63* (T=.150) 	SR64* (T=.150) Leads = #22 AWG	SR64-LP* (T=.150) Leads = #22 AWG	AR65/SR65* (T=.150) 	

*SL style available in all SR configurations.

Configurations by Lead Spacing



- NOTES:**
1. All leads are #24 AWG unless otherwise noted.
 2. Available in tape and reel packaging(*).
 3. Other styles are also available, contact factory.
 4. (T = XXX) under type designation is maximum thickness in inches.

*SL style available in all SR configurations.

Drawings are for illustrative purposes only.
Actual lead form shape could vary within stated tolerances based on body size.

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.

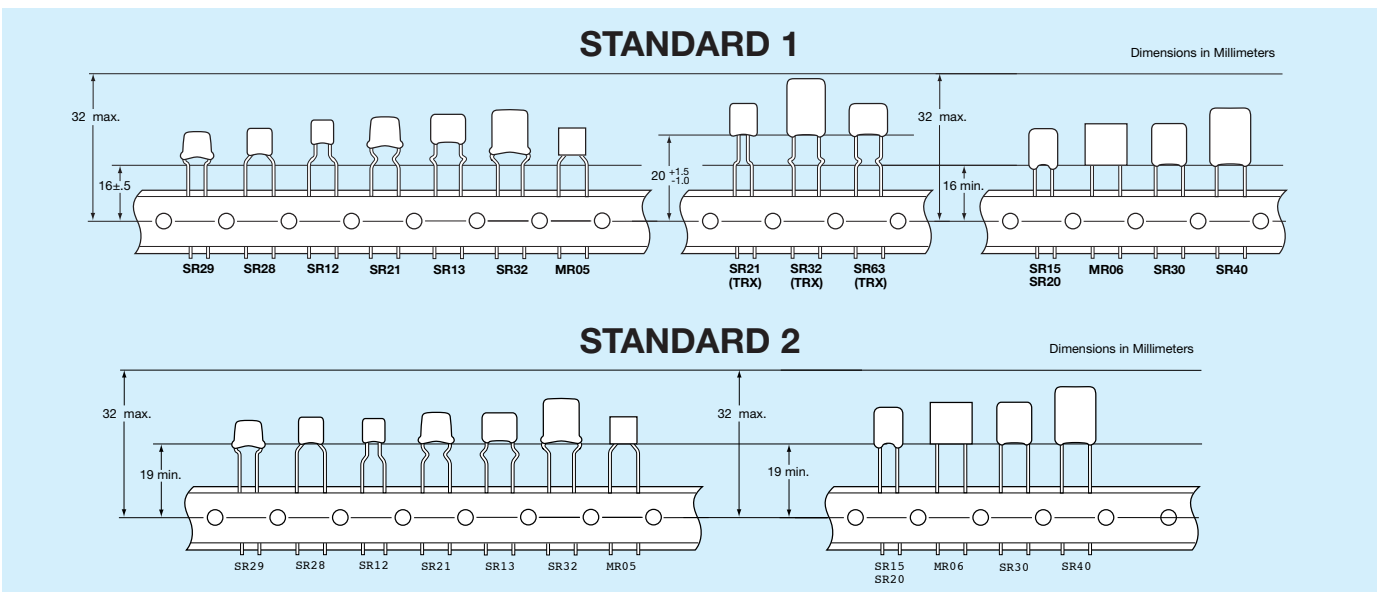
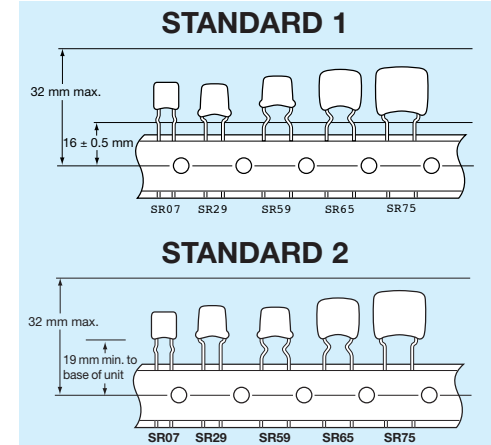
HOW TO ORDER

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

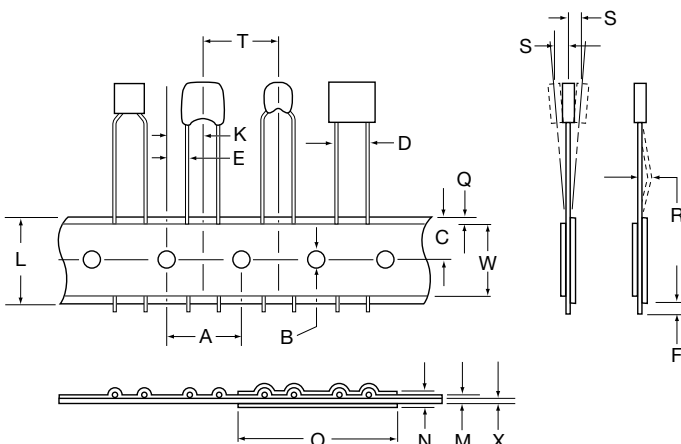
THE INSERTABLES



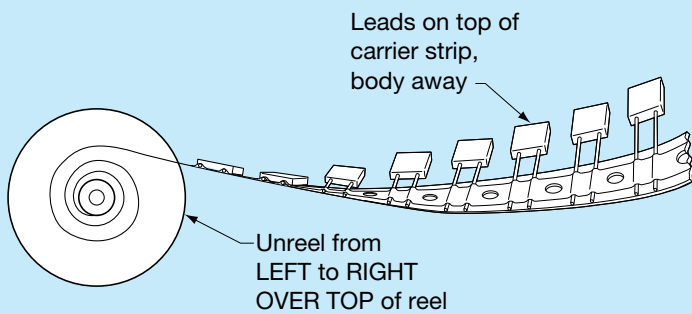
DESCRIPTION

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



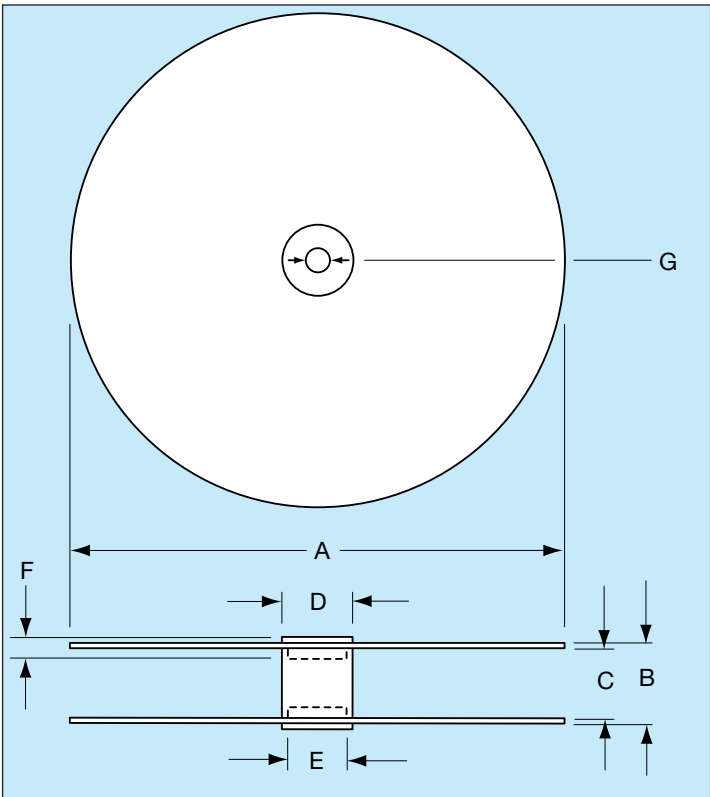
REEL DIRECTION



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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

AVX:

MR065C105KAT	MR045A222KAA	MR045C471MAA	MR065C824KAA	MR051A220KAA	MR045A472KAA
MR055C333KAA	MR045A101KAA	MR051C223KAA	MR045A390GAA	MR045A101FAA	MR045C103JAA
MR055A102FAA	MR051A472GAA	MR045C223KAA	MR045A100KAA	MR051A100JAA	MR071C105MAA
MR051C821KAA	MR061C104KAT	MR065C274JAA	MR051C103MAA	MR045A221KAA	MR051C103JAA
MR055A181JAA	MR061E334MAA	MR055A682GAA	MR081A104GAA	MR045A821KAA	MR052C151KAA
MR051A101GAA	MR051A681KAA	MR051A561KAA	MR072C334MAA	MR052A331KAA	MR041C222KAA
MR045A180KAA	MR061A562JAA	MR051C332JAA	MR055C151JAA	MR055A270JAA	MR055C471KAA
MR061C823JAA	MR065C334KAA	MR061C124JAA	MR065C184KAA	MR065C564JAA	MR052A102JAA
MR045A560GAA	MR061C154KAA	MR051A180KAA	MR045C472MAA	MR041C223KAA	MR065E105ZAA
MR045A562JAA	MR045C103KAA	MR082C105KAA	MR075C105JAA	MR051A121KAT	MR051C151KAA
MR051A392KAA	MR042C123JAA	MR051A332JAA	MR075C205JAA	MR055C681KAA	MR051A330JAA
MR055C153JAA	MR042A102KAA	MR052A681GAA	MR045A182KAA	MR051A472KAA	MR045E104ZAA
MR042A221KAA	MR055C473MAA	MR051C682JAA	MR061C124KAA	MR042C101KAA	MR055C123JAA
MR075C225JAA	MR045A120JAA	MR041A222KAA	MR075C334KAA	MR051A222GAA	MR045C104KAA
MR065E564ZAA	MR051A102JAT	MR045A221FAA	MR045A101JAA	MR052C123JAA	MR065C105JAA
MR055A472FAA	MR061E474MAA	MR041A330JAA	MR051A271JAA	MR061E274ZAA	MR055A122GAA
MR051A820JAA	MR055C181KAA	MR045E104ZAT	MR041C562KAA		