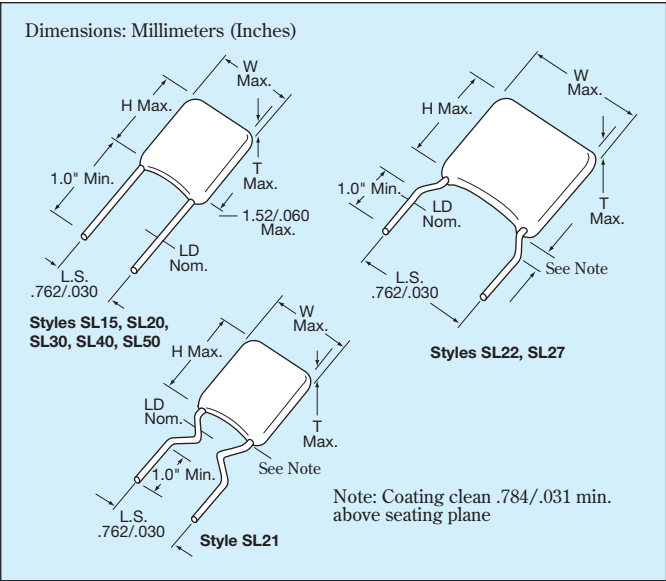


Radial Leads/SkyCap®/SL Series



GENERAL INFORMATION

AVX SL Series
Conformally Coated Radial Ledged MLC
Temperature Coefficients: C0G (NP0), X7R, Z5U
200, 100, 50 Volts (300V, 400V & 500V also available)
Case Material: Epoxy
Lead Material: Solderable Sn/Pb



HOW TO ORDER

SL21	5	E	104	M	A	B
AVX Style	Voltage	Temperature Coefficient	Capacitance	Capacitance Tolerance	Failure Rate	Leads
SL15 SL20 SL21 SL22 SL27 SL30 SL40 SL50	5 = 50V 1 = 100V 2 = 200V 9 = 300V 8 = 400V 7 = 500V	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): C = ±.25pF D = ±.5pF F = ±1% (>50pF only) G = ±2% (>25pF only) J = ±5% K = ±10% X7R: J = ±5% K = ±10% M = ±20% Z5U: M = ±20% Z = +80% -20%	A = Not Applicable	B = Sn/Pb

MARKING

FRONT	BACK
XXX — Capacitance Code X X X — Tolerance Code — Voltage Code — Temp. Char. Code	XXX — 3 Digit Date Code A XX — Lot Code — AVX Logo

PACKAGING REQUIREMENTS

	Quantity per Bag
SL15, 20, 21, 22, 27, 30	1000 Pieces
SL40, 50	500 Pieces

Note: SL15, SL20, SL21, SL30, and SL40 available on tape and reel per EIA specifications RS-468. See Pages 33 and 34.



Radial Leads/SkyCap®/SL Series



C0G (NP0) Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style		SL15			SL20			SL21			SL22			SL27			SL30		SL40		SL50	
AVX “Insertable”		SL07			SL29			SL59			N/A			N/A			SL65		SL75		N/A	
Width (W)		3.81 (.150)			5.08 (.200)			5.08 (.200)			5.08 (.200)			6.604 (.260)			7.62 (.300)		10.16 (.400)		12.70 (.500)	
Height (H)		3.81 (.150)			5.08 (.200)			5.08 (.200)			5.08 (.200)			6.35 (.250)			7.62 (.300)		10.16 (.400)		12.70 (.500)	
Thickness (T)		2.54 (.100)			3.175 (.125)			3.175 (.125)			3.175 (.125)			4.06 (.160)			3.81 (.150)		3.81 (.150)		5.08 (.200)	
Lead Spacing (L.S.)		2.54 (.100)			2.54 (.100)			5.08 (.200)			6.35 (.250)			7.62 (.300)			5.08 (.200)		5.08 (.200)		10.16 (.400)	
Lead Diameter (L.D.)		.508 (.020)			.508 (.020)			.508 (.020)			.508 (.020)			.508 (.020)			.508 (.020)		.508 (.020)		.635 (.025)	
Cap. in.* Industry Preferred pF Values in Blue		WVDC 200 100 50			WVDC 200 100 50			WVDC 200 100 50			WVDC 200 100 50			WVDC 200 100 50			WVDC 100 50		WVDC 100 50		WVDC 100 50	
1.0-9.9 10 15	SL151A1R0DAB SL151A100KAB SL_____A150KAB																					
22 33 39	SL_____A220KAB SL_____A330KAB SL_____A390KAB																					
47 68 100	SL_____A470KAB SL_____A680KAB SL151A101KAB																					
150 220 330	SL_____A151KAB SL_____A221KAB SL_____A331KAB																					
390 470 680	SL_____A391KAB SL_____A471KAB SL_____A681KAB																					
1000 1500 2200	SL211A102KAB SL_____A152KAB SL_____A222KAB																					
3900 4700 6800	SL_____A392KAB SL_____A472KAB SL_____A682KAB																					
8200 10,000 15,000	SL_____A822KAB SL305A103KAB SL_____A153KAB																					
22,000 33,000 39,000	SL_____A223KAB SL_____A333KAB SL_____A393KAB																					
47,000 68,000 100,000	SL_____A473KAB SL_____A683KAB SL_____A104KAB																					

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

*Other capacitance values available upon special request.

 = Industry preferred values
 = SL20 only

NOTE: Capacitance Ranges available for SL12 same as SL15
 SL62 same as SL21
 SL64 same as SL30
 SL89 same as SL21

Radial Leads/SkyCap®/SL Series



X7R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SL15	SL20	SL21	SL22	SL27	SL30	SL40	SL50															
AVX “Insertable”	SL07	SL29	SL59	N/A	N/A	SL65	SL75	N/A															
Width (W)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.604 (.260)	7.62 (.300)	10.16 (.400)	12.70 (.500)															
Height (H)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.35 (.250)	7.62 (.300)	10.16 (.400)	12.70 (.500)															
Thickness (T)	2.54 (.100)	3.175 (.125)	3.175 (.125)	3.175 (.125)	4.06 (.160)	3.81 (.150)	3.81 (.150)	5.08 (.200)															
Lead Spacing (L.S.)	2.54 (.100)	2.54 (.100)	5.08 (.200)	6.35 (.250)	7.62 (.300)	5.08 (.200)	5.08 (.200)	10.16 (.400)															
Lead Diameter (L.D.)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.635 (.025)															
Cap. in.* pF	Industry Preferred Values in Blue	WVDC			WVDC			WVDC			WVDC			WVDC			WVDC			WVDC			
		200	100	50	200	100	50	200	100	50	100	50	100	50	200	100	50	200	100	50	200	100	50
470	SL_____C471KAB																						
1000	SL155C102KAB																						
1500	SL_____C152KAB																						
2200	SL_____C222KAB																						
3300	SL_____C332KAB																						
4700	SL_____C472KAB																						
6800	SL_____C682KAB																						
10,000	SL215C103KAB																						
15,000	SL_____C153KAB																						
22,000	SL_____C223KAB																						
33,000	SL_____C333KAB																						
47,000	SL_____C473KAB																						
68,000	SL_____C683KAB																						
100,000	SL215C104KAB																						
150,000	SL_____C154KAB																						
220,000	SL215C224KAB																						
330,000	SL_____C334KAB																						
390,000	SL_____C394KAB																						
470,000	SL305C474KAB																						
1.0 µF	SL305C105KAB																						
2.2 µF	SL405C225KAB																						
2.7 µF	SL505C275KAB																						
4.7 µF	SL505C475KAB																						

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

*Other capacitance values available upon special request.

	= Industry preferred values
	= SL20 only
	= Extended range
	= Extended range, SL20 only
	= Extended range with 0.150" thickness maximum

NOTE: Capacitance Ranges available for SL12 same as SL15
 SL62 same as SL21
 SL64 same as SL30
 SL89 same as SL21

Radial Leads/SkyCap®/SL Series



Z5U Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SL15	SL20	SL21	SL22	SL27	SL30	SL40	SL50
AVX "Insertable"	SL07	SL29	SL59	N/A	N/A	SL65	SL75	N/A
Width (W)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.604 (.260)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Height (H)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.35 (.250)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Thickness (T)	2.54 (.100)	3.175 (.125)	3.175 (.125)	3.175 (.125)	4.06 (.160)	3.81 (.150)	3.81 (.150)	5.08 (.200)
Lead Spacing (L.S.)	2.54 (.100)	2.54 (.100)	5.08 (.200)	6.35 (.250)	7.62 (.300)	5.08 (.200)	5.08 (.200)	10.16 (.400)
Lead Diameter (L.D.)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.635 (.025)
Cap. in.* Industry Preferred pF Values in Blue	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50
10,000 SL155E103ZAB								
47,000 SL.....E473ZAB								
100,000 SL215E104ZAB								
150,000 SL.....E154ZAB								
220,000 SL215E224ZAB								
330,000 SL215E334ZAB								
470,000 SL215E474ZAB								
680,000 SL.....E684ZAB								
1.0 µF SL.....105ZAB								
1.5 µF SL30E155ZAB								
2.2 µF SL30E225ZAB								
3.3 µF SL30E335ZAB								
4.7 µF SL30E475ZAB								

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

*Other capacitance values available upon special request.

	= Industry preferred values
	= SL20 only

AVX 500 VOLT SKYCAPS**

STYLE*	MAXIMUM CAPACITANCE VALUE	
	C0G (NP0)	X7R
SL29	900 pF	.015 µF
SL20	1800 pF	.033 µF
SL28		
SL59	900 pF	.015 µF
SL13		
SL21	1800 pF	.033 µF
SL30		
SL61	7200 pF	.12 µF
SL65		
SL40		
SL75	.015 µF	.27 µF
SL22	1800 pF	.033 µF
SL27	1800 pF	.033 µF
SL76	.015 µF	.27 µF
SL50	.036 µF	.59 µF

*Consult pages 27 and 28 for style sizes.

**Voltage rating based on DWV of 150% of rated voltage.

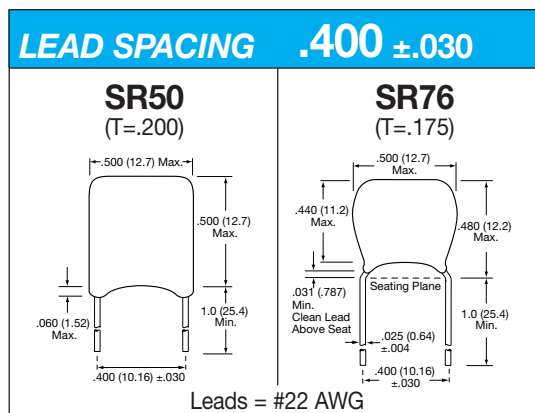
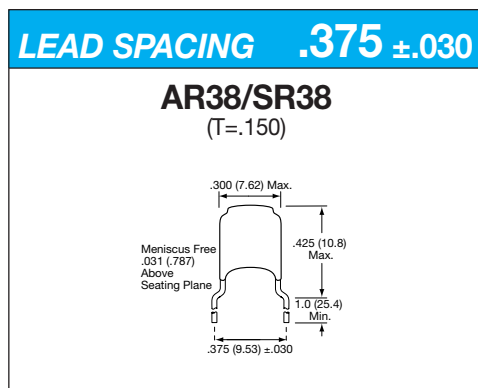
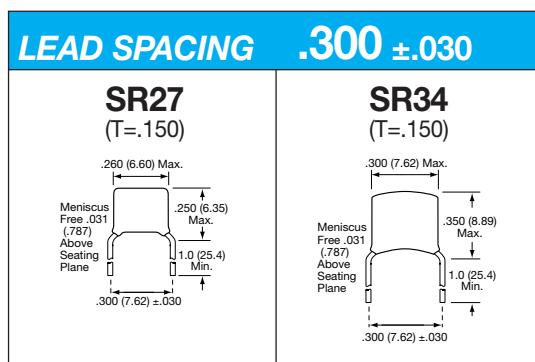
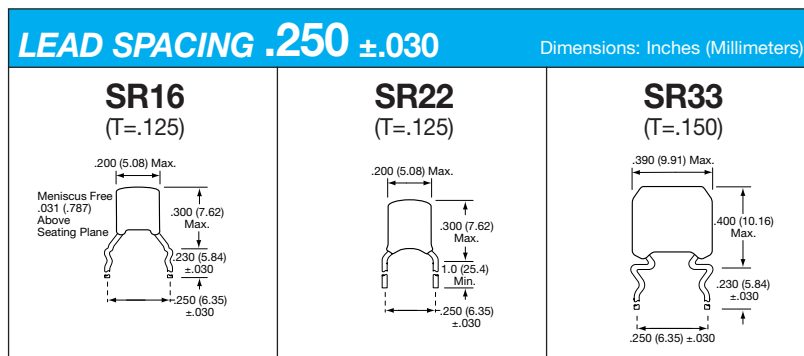
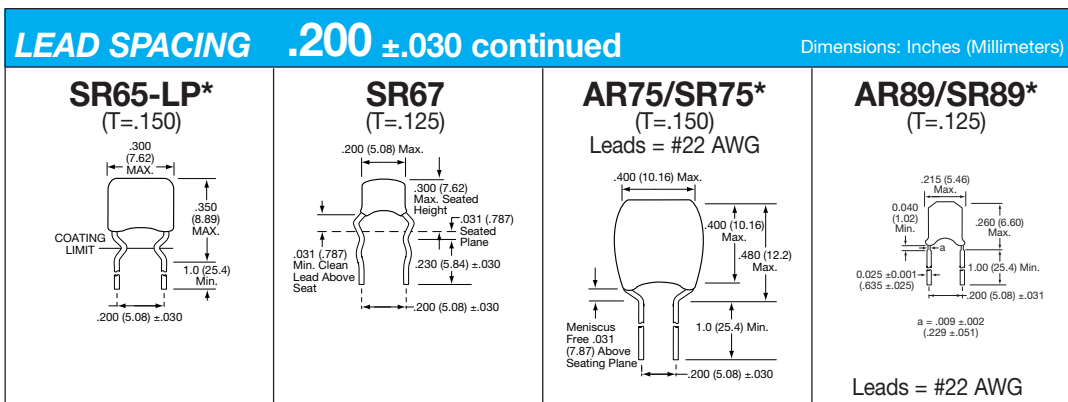
Configurations by Lead Spacing

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) 	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) 	SR64-LP* (T=.150) 	AR65/SR65* (T=.150) 	Leads = #22 AWG

*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.

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.

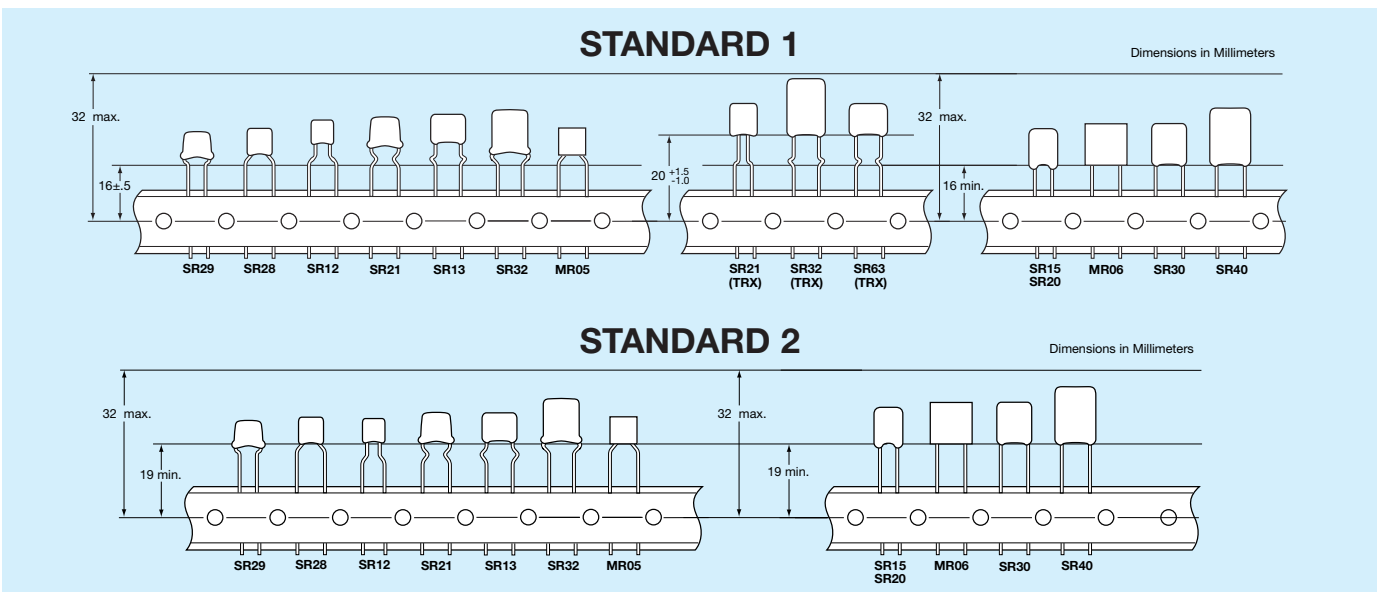
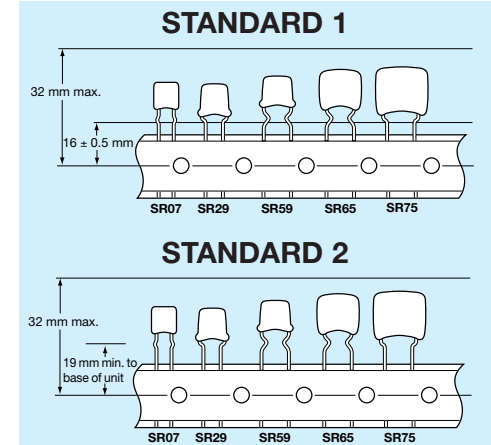
HOW TO ORDER

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

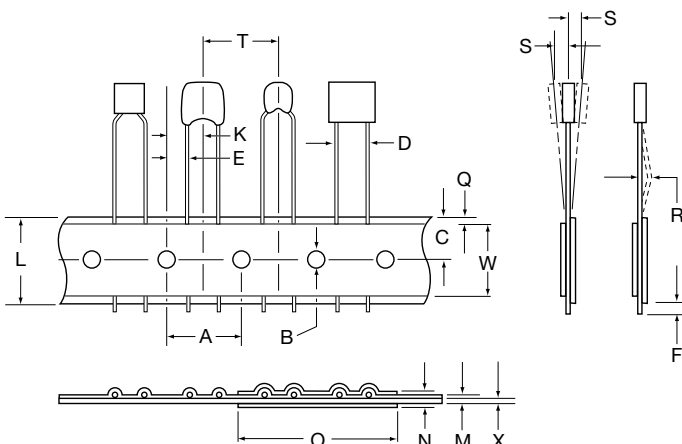
THE INSERTABLES



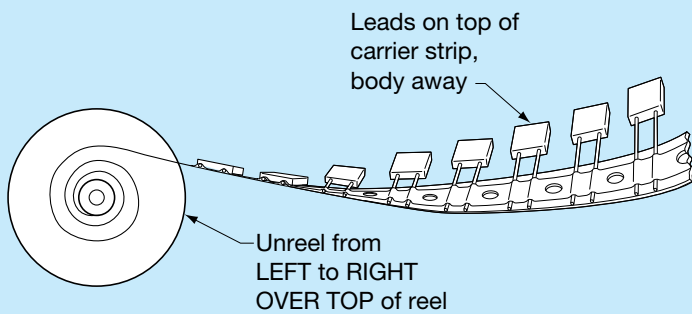
DESCRIPTION

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



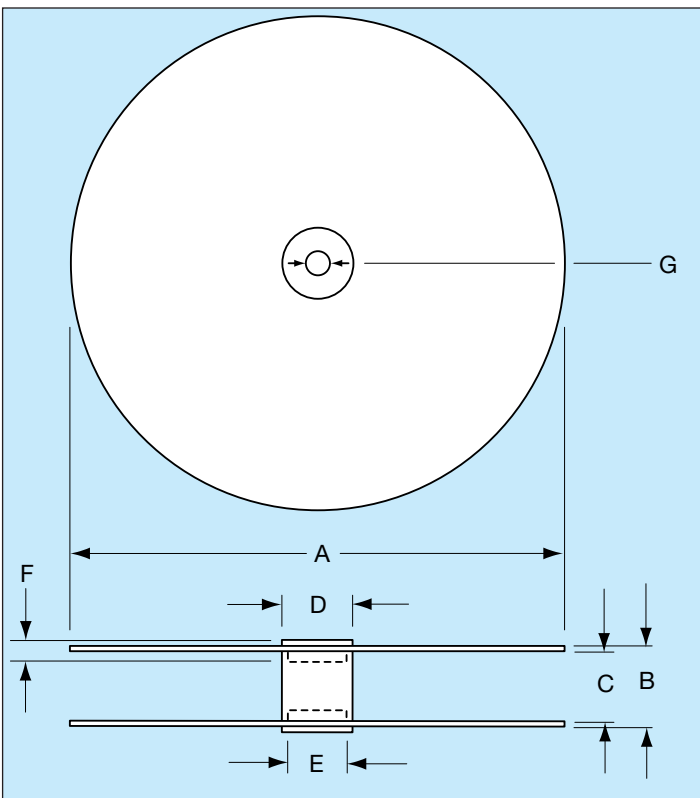
REEL DIRECTION



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