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Jameco Part Number 1190053

GENERAL INFORMATION

AVX SR Series

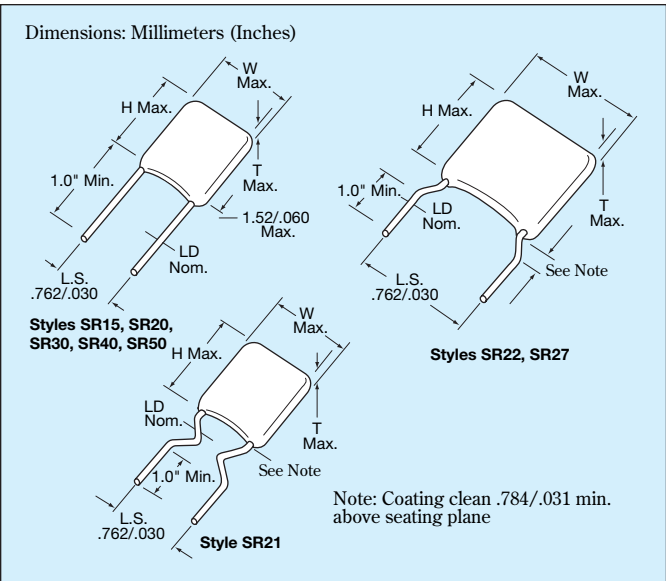
Conformally Coated Radial Ledged MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

200, 100, 50 Volts (300V, 400V & 500V also available)

Case Material: Epoxy

Lead Material: Solderable

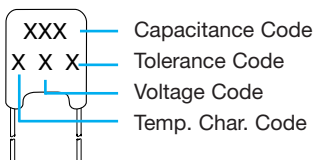


HOW TO ORDER

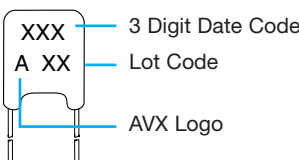
SR21	5	E	104	M	A	R
AVX Style SR15 SR20 SR21 SR22 SR27 SR30 SR40 SR50	Voltage 5 = 50V 1 = 100V 2 = 200V 9 = 300V 8 = 400V 7 = 500V	Temperature Coefficient A = C0G (NP0) C = X7R E = Z5U	Capacitance First two digits are the significant figures of capacitance. Third digit indicates the additional number 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): C = $\pm 25\text{pF}$ D = $\pm 5\text{pF}$ 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	Leads T = Trimmed Leads .230" $\pm$.030" A = Long Leads 1.0" minimum (Other lead lengths are available, contact AVX) R = RoHS Long Lead 1.0" minimum

MARKING

FRONT



BACK



PACKAGING REQUIREMENTS

	Quantity per Bag
SR15, 20, 21, 22, 27, 30	1000 Pieces
SR40, 50	500 Pieces

Note: SR15, SR20, SR21, SR30, and SR40 available on tape and reel per EIA specifications RS-468. See Pages 23 and 24.

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style		SR15			SR20			SR21			SR22			SR27			SR30			SR40			SR50	
AVX “Insertable”		SR07			SR29			SR59			N/A			N/A			SR65			SR75			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			WVDC			WVDC			WVDC			WVDC			WVDC			WVDC			WVDC	
		200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	100	50	100	50	100	50		
1.0-9.9	SR151A1R0DAA																							
10	SR151A100KAA																							
15	SR_____A150KAA																							
22	SR_____A220KAA																							
33	SR_____A330KAA																							
39	SR_____A390KAA																							
47	SR_____A470KAA																							
68	SR_____A680KAA																							
100	SR151A101KAA																							
150	SR_____A151KAA																							
220	SR_____A221KAA																							
330	SR_____A331KAA																							
390	SR_____A391KAA																							
470	SR_____A471KAA																							
680	SR_____A681KAA																							
1000	SR211A102KAA																							
1500	SR_____A152KAA																							
2200	SR_____A222KAA																							
3900	SR_____A392KAA																							
4700	SR_____A472KAA																							
6800	SR_____A682KAA																							
8200	SR_____A822KAA																							
10,000	SR305A103KAA																							
15,000	SR_____A153KAA																							
22,000	SR_____A223KAA																							
33,000	SR_____A333KAA																							
39,000	SR_____A393KAA																							
47,000	SR_____A473KAA																							
68,000	SR_____A683KAA																							
100,000	SR_____A104KAA																							

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
 = SR20 only

NOTE: Capacitance Ranges available for SR12 same as SR15
 SR62 same as SR21
 SR64 same as SR30
 SR89 same as SR21

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SR15	SR20	SR21	SR22	SR27	SR30	SR40	SR50														
AVX “Insertable”	SR07	SR29	SR59	N/A	N/A	SR65	SR75	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			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 SR.....C471KAA																						
1000 SR155C102KAA																						
1500 SR.....C152KAA																						
2200 SR.....C222KAA																						
3300 SR.....C332KAA																						
4700 SR.....C472KAA																						
6800 SR.....C682KAA																						
10,000 SR215C103KAA																						
15,000 SR.....C153KAA																						
22,000 SR.....C223KAA																						
33,000 SR.....C333KAA																						
47,000 SR.....C473KAA																						
68,000 SR.....C683KAA																						
100,000 SR215C104KAA																						
150,000 SR.....C154KAA																						
220,000 SR215C224KAA																						
330,000 SR.....C334KAA																						
390,000 SR.....C394KAA																						
470,000 SR305C474KAA																						
1.0 µF SR305C105KAA																						
2.2 µF SR405C225KAA																						
2.7 µF SR505C275KAA																						
4.7 µF SR505C475KAA																						

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
	= SR20 only
	= Extended range
	= Extended range, SR20 only

NOTE: Capacitance Ranges available for SR12 same as SR15
 SR62 same as SR21
 SR64 same as SR30
 SR89 same as SR21

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SR15	SR20	SR21	SR22	SR27	SR30	SR40	SR50
AVX "Insertable"	SR07	SR29	SR59	N/A	N/A	SR65	SR75	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 SR15E103ZAA								
47,000 SR.....E473ZAA								
100,000 SR215E104ZAA								
150,000 SR.....E154ZAA								
220,000 SR215E224ZAA								
330,000 SR215E334ZAA								
470,000 SR215E474ZAA								
680,000 SR.....E684ZAA								
1.0 µF SR.....105ZAA								
1.5 µF SR30E155ZAA								
2.2 µF SR30E225ZAA								
3.3 µF SR30E335ZAA								
4.7 µF SR30E475ZAA								

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
 = SR20 only

AVX 500 VOLT SKYCAPS**

STYLE*	MAXIMUM CAPACITANCE VALUE	
	COG (NP0)	X7R
SR29	900 pF	.015 µF
SR20	1800 pF	.033 µF
SR28		
SR59	900 pF	.015 µF
SR13		
SR21	1800 pF	.033 µF
SR30		
SR61	7200 pF	.12 µF
SR65		
SR40		
SR75	.015 µF	.27 µF
SR22	1800 pF	.033 µF
SR27	1800 pF	.033 µF
SR76	.015 µF	.27 µF
SR50	.036 µF	.59 µF

*Consult pages 17 and 18 for style sizes.

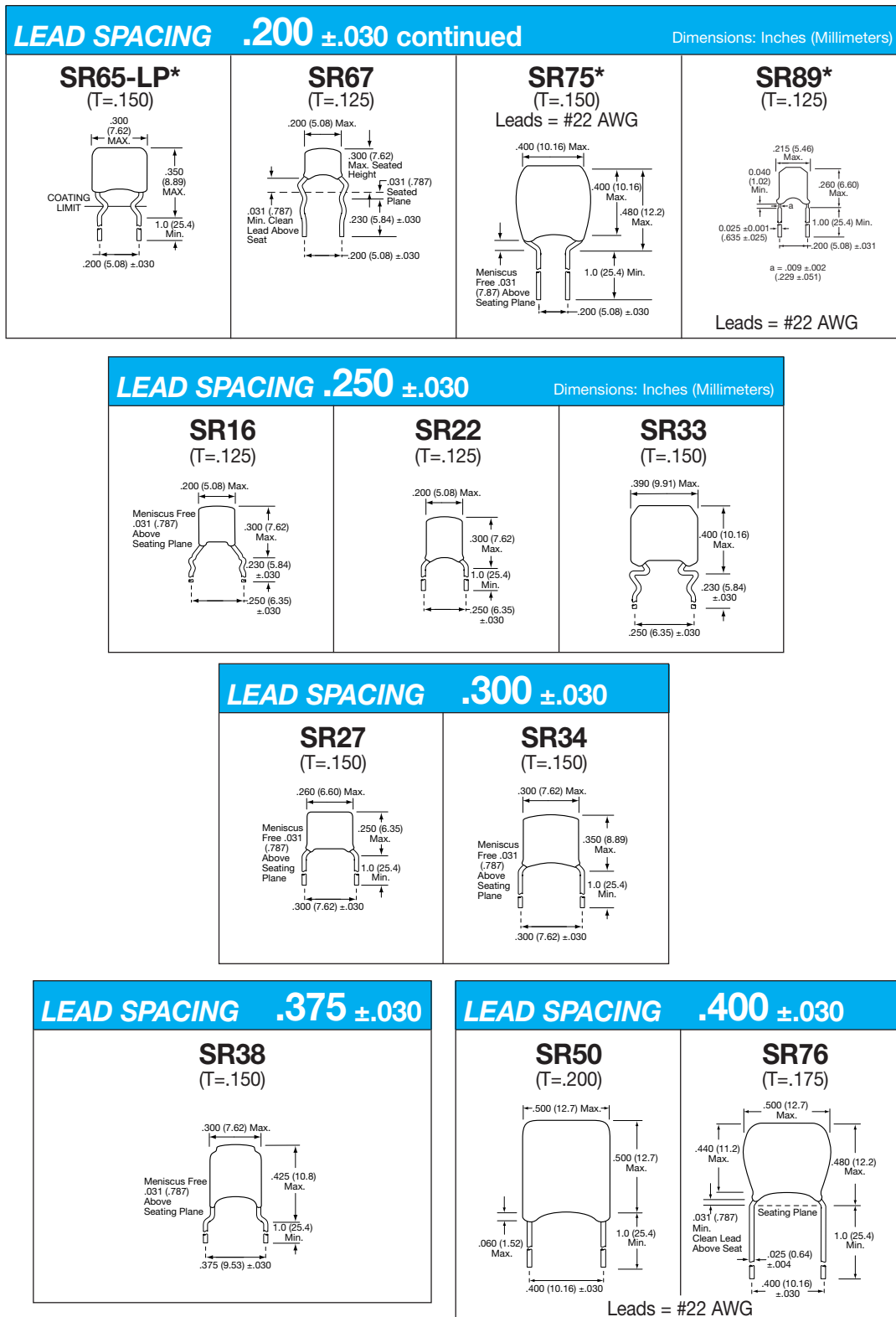
**Voltage rating based on DWV of 150% of rated voltage.

Configurations by Lead Spacing

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

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

Configuration 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.

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

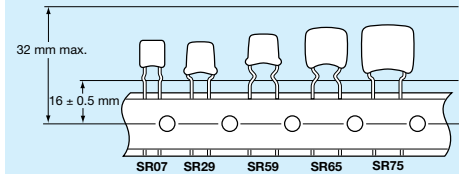
To specify tape and reel packaging, add TR1, TR2 or TRX to the end of the AVX 12 digit part number.

Examples:

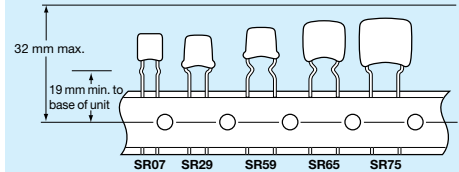
SR215C104KAATR1
SR305E105MAATR2
SR215C103JAATRX

THE INSERTABLES

STANDARD 1

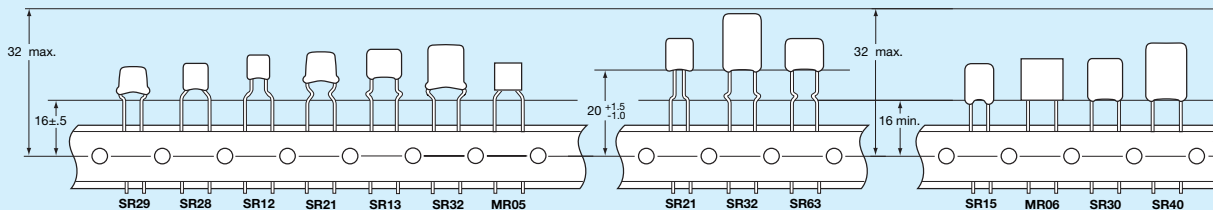


STANDARD 2



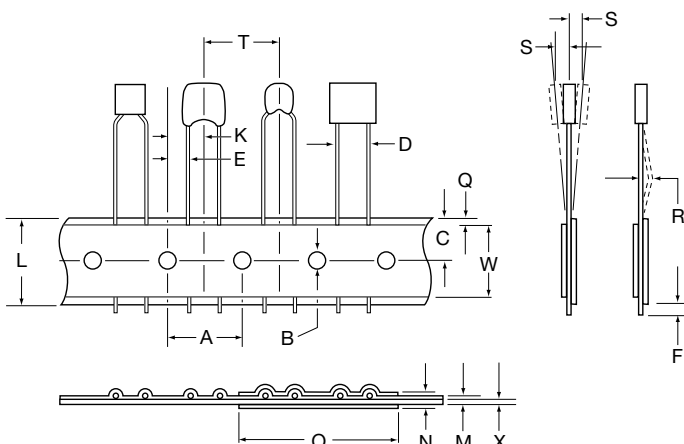
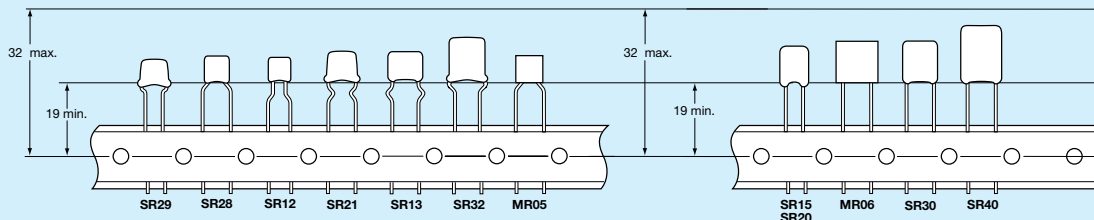
STANDARD 1

Dimensions in Millimeters



STANDARD 2

Dimensions in Millimeters



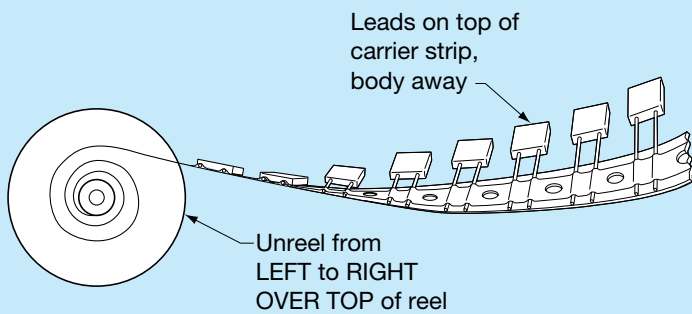
DESCRIPTION

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 ^{+.102} _{-.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

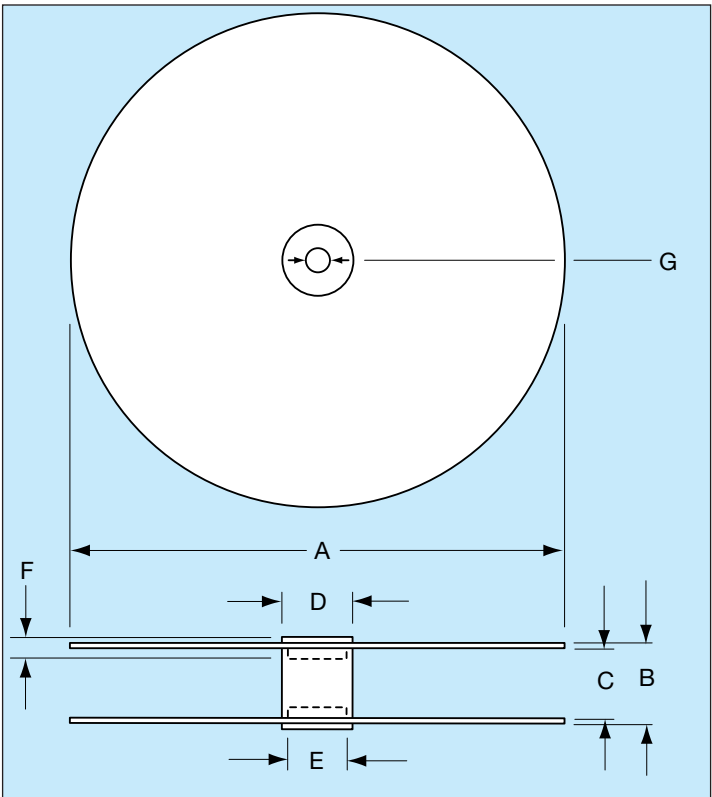


REEL DIRECTION



QUANTITY PER REEL

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



DESCRIPTION	DIMENSIONS (MM)
A – Reel Diameter	304.80 - 355
B – Reel Outside Width	50.80 maximum
C – Reel Inside Width	38.10 - 46.02
D – Core Diameter (O.D.)	102.01 maximum
E – Hub Recess Diameter	86.36 maximum
F – Hub Recess Depth	9.50 minimum
G – Arbor Hole Diameter	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