

GENERAL INFORMATION

AVX SR Series

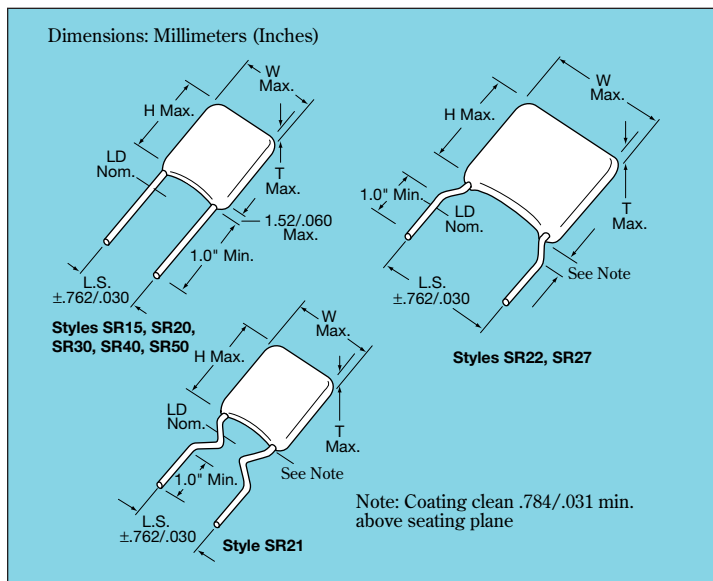
Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

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

Case Material: Epoxy

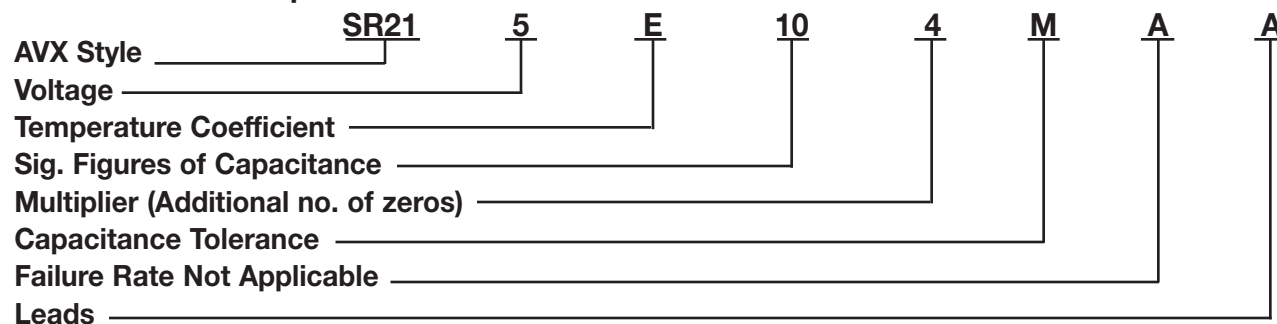
Lead Material: Solderable



HOW TO ORDER

AVX Styles: SR15, SR20, SR21, SR22, SR27, SR30, SR40, SR50

Part Number Example



Part Number Codes

Voltages: 50V = 5, 100V = 1, 200V = 2,
300V = 9, 400V = 8, 500V = 7

Temp. Coefficient: C0G (NP0) = A, X7R = C, Z5U = E

Sig. Figures of Capacitance and Multiplier:

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 = 1.4 pF).

Capacitance Tolerances:

C0G (NP0): C = $\pm 0.25\text{pF}$, D = $\pm 0.5\text{pF}$, F = $\pm 1.0\%$ (>50 pF only)
G = $\pm 2.0\%$ (>25 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

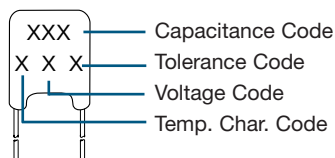
Leads: T = Trimmed Leads, $.230" \pm .030"$

A = Long Leads, 1.0" minimum

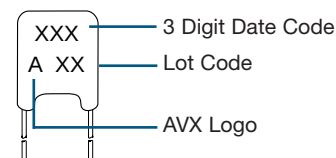
(Other lead lengths are available, contact AVX)

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 24 and 25.

C0G (NP0) Dielectric

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 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	SR151A1R0DAA SR151A100KAA SR____A150KAA							
22 33 39	SR____A220KAA SR____A330KAA SR____A390KAA							
47 68 100	SR____A470KAA SR____A680KAA SR151A101KAA							
150 220 330	SR____A151KAA SR____A221KAA SR____A331KAA							
390 470 680	SR____A391KAA SR____A471KAA SR____A681KAA							
1000 1500 2200	SR211A102KAA SR____A152KAA SR____A222KAA							
3900 4700 6800	SR____A392KAA SR____A472KAA SR____A682KAA							
8200 10,000 15,000	SR____A822KAA SR305A103KAA SR____A153KAA							
22,000 33,000 39,000	SR____A223KAA SR____A333KAA SR____A393KAA							
47,000 68,000 100,000	SR____A473KAA SR____A683KAA 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

X7R Dielectric

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 Values in Blue		WVDC			WVDC			WVDC		WVDC		WVDC		WVDC			WVDC			WVDC		
		200	100	50	200	100	50	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

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

Z5U Dielectric

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 SR155E103ZAA								
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	
	C0G (NP0)	X7R
SR29	900 pF	.015 µF
SR20	1800 pF	.033 µF
SR28	900 pF	.015 µF
SR59		
SR13	1800 pF	.033 µF
SR21		
SR30	7200 pF	.12 µF
SR61		
SR65		
SR40	.015 µF	.27 µF
SR75		
SR22	1800 pF	.033 µF
SR27	1800 pF	.033 µF
SR76	.015 µF	.27 µF
SR50	.036 µF	.59 µF

*Consult pages 18 and 19 for style sizes.

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

Configurations by Lead Spacing

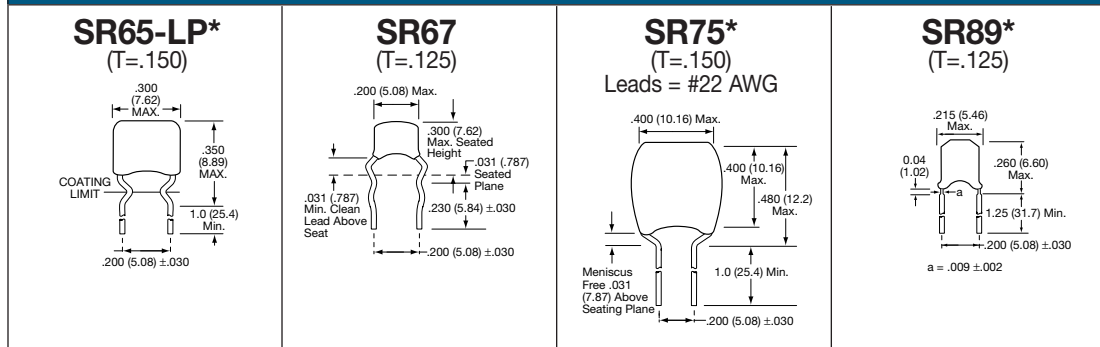
LEAD SPACING $.100 \pm .030$				Dimensions: Inches (Millimeters)
SR07* (T=.100)	SR14 (T=.100)	SR15* (T=.100)	SR20* (T=.125)	
SR29* (T=.125)	SR62* (T=.100)	SR62-LP* (T=.100)		

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)	

Configurations by Lead Spacing

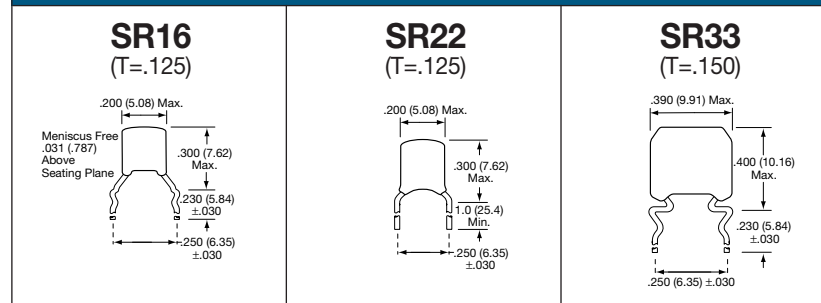
LEAD SPACING .200 ±.030 continued

Dimensions: Inches (Millimeters)

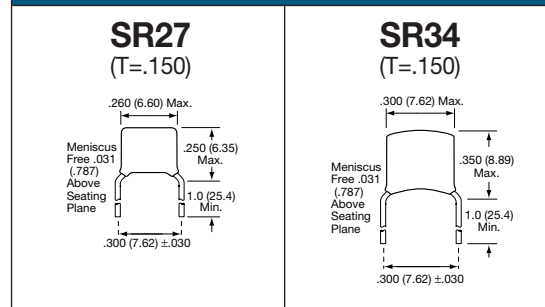


LEAD SPACING .250 ±.030

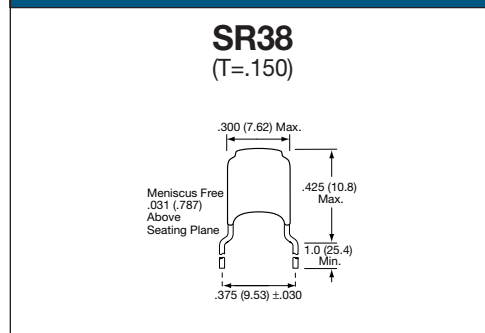
Dimensions: Inches (Millimeters)



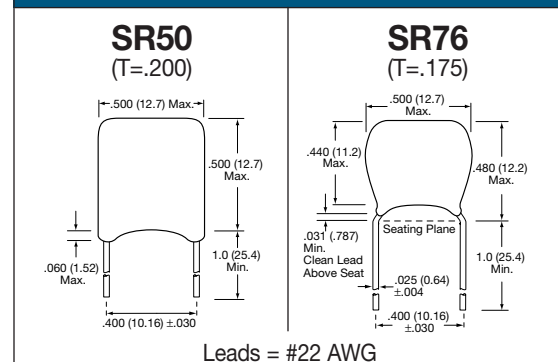
LEAD SPACING .300 ±.030



LEAD SPACING .375 ±.030



LEAD SPACING .400 ±.030



Leads = #22 AWG

- 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.

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

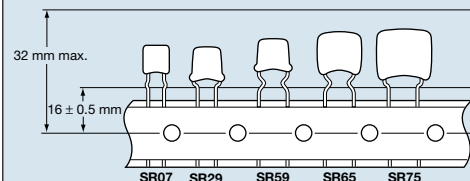
To specify tape and reel packaging, add TR1, TR2 or TRX to the end of the AVX 12 digit part number.

Examples:

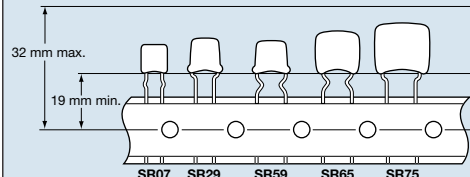
SR215C104KAATR1
SR305E105MAATR2
SR215C103JAATTRX

The Insertables

STANDARD 1

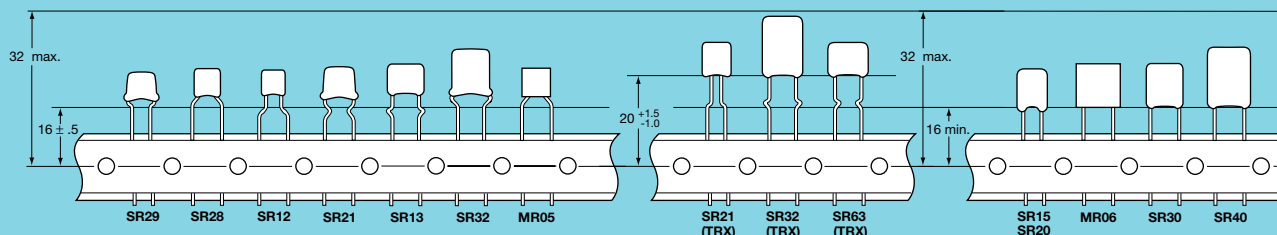


STANDARD 2



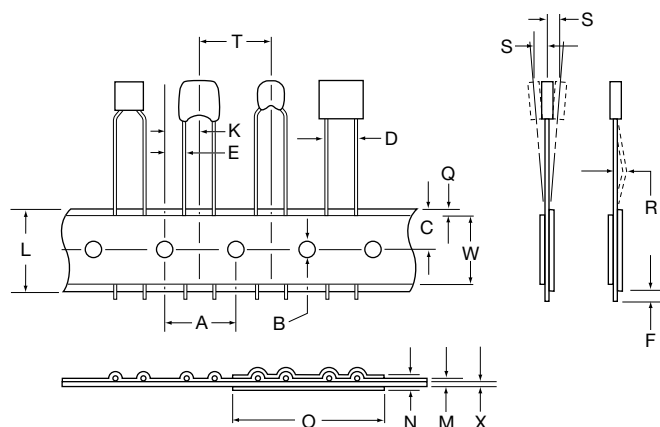
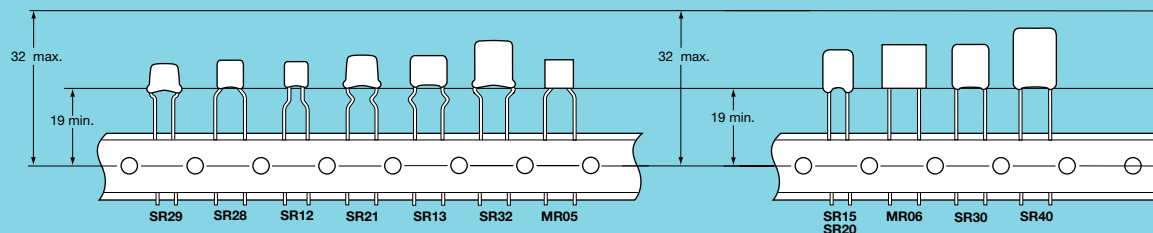
STANDARD 1

Dimensions in Millimeters



STANDARD 2

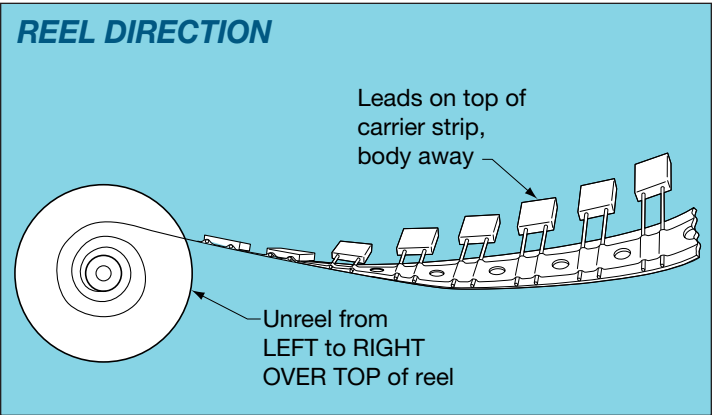
Dimensions in Millimeters



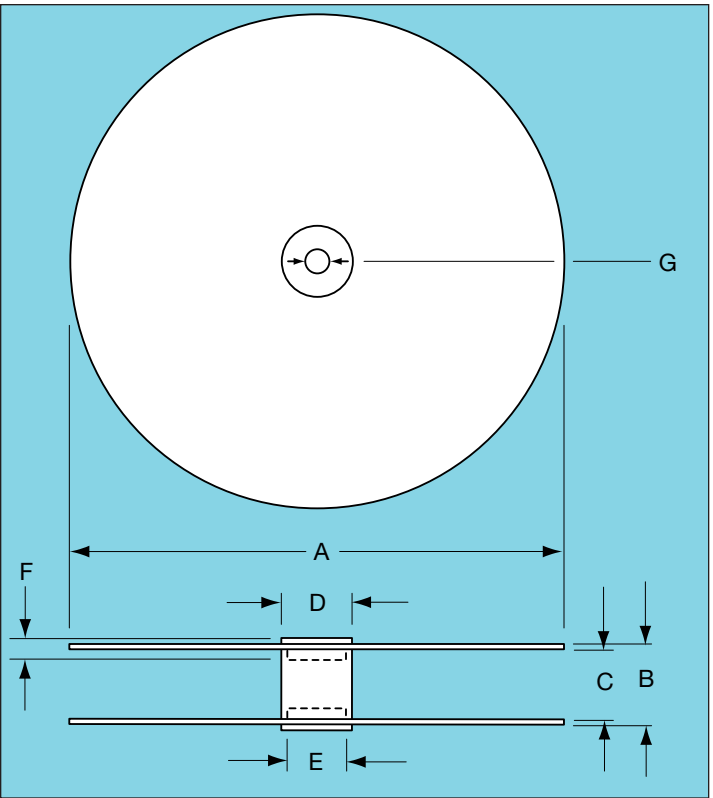
DESCRIPTION

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 ^{+0.79} _{-.20} or 2.54 ^{+0.79} _{-.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



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