GENERAL INFORMATION

AVX SR Series

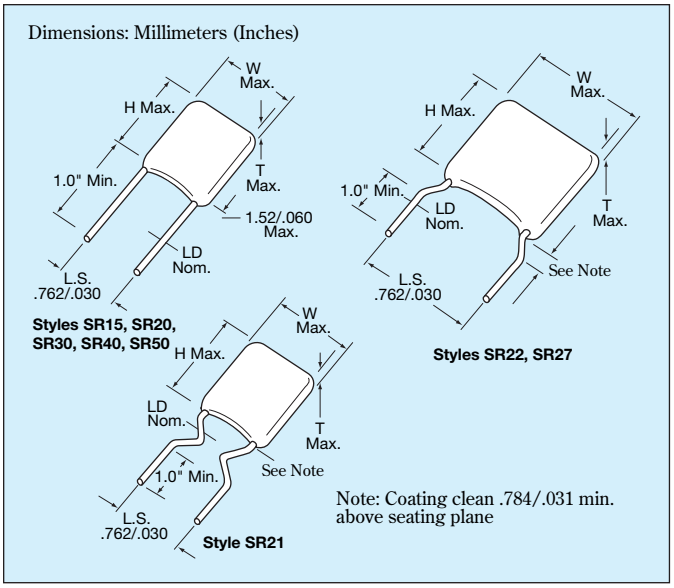
Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

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

Case Material: Epoxy

Lead Material: Solderable

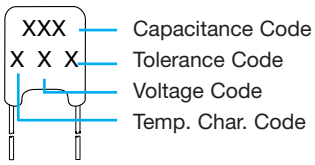


HOW TO ORDER

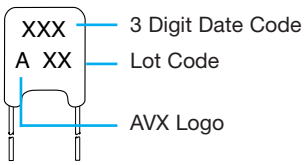
SR21	5	E	104	M	A	R
AVX Style	**Voltage**	**Temperature Coefficient**	**Capacitance**	**Capacitance Tolerance**	**Failure Rate**	**Leads**
SR15 SR20 SR21 SR22 SR27 SR30 SR40 SR50	5 = 50V 1 = 100V 2 = 200V 9 = 300V 8 = 400V 7 = 500V	A = C0G (NP0) C = X7R E = Z5U	First two digits are the significant figures 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	T = Trimmed Leads .230" ± .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 29 and 30.

Radial Leads/SkyCap®

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.* pF	Industry Preferred 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	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

Radial Leads/SkyCap®

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.* pF	Industry Preferred Values in Blue	SR15 WVDC 200	SR15 WVDC 100	SR15 WVDC 50	SR20 WVDC 200	SR20 WVDC 100	SR20 WVDC 50	SR21 WVDC 200	SR21 WVDC 100	SR21 WVDC 50	SR22 WVDC 100	SR22 WVDC 50	SR27 WVDC 100	SR27 WVDC 50	SR30 WVDC 200	SR30 WVDC 100	SR30 WVDC 50	SR40 WVDC 200	SR40 WVDC 100	SR40 WVDC 50	SR50 WVDC 200	SR50 WVDC 100	SR50 WVDC 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**

= **Extended range with 0.150" thickness maximum**

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

Radial Leads/SkyCap®

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.* pF	Industry Preferred Values in Blue	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 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 SR59	900 pF	.015 µF
SR13 SR21	1800 pF	.033 µF
SR30 SR61 SR65	7200 pF	.12 µF
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 22 and 23 for style sizes.

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

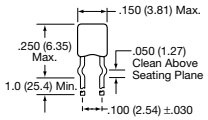
SkyCap®/AR Series

Configurations by Lead Spacing

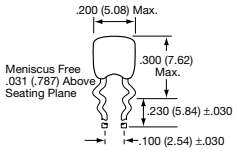
LEAD SPACING .100 ±.030

Dimensions: Inches (Millimeters)

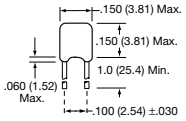
AR07/SR07*
(T=.100)



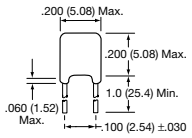
AR14/SR14
(T=.100)



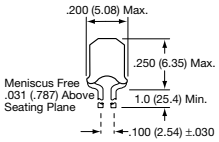
AR15/SR15*
(T=.100)



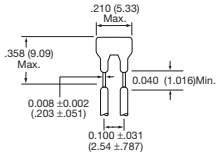
AR20/SR20*
(T=.125)



AR29/SR29*
(T=.125)

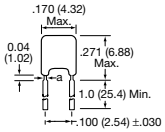


AR62/SR62*
(T=.125)



Leads = #22 AWG

SR62-LP*
(T=.100)

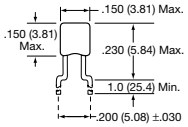


Leads = #22 AWG

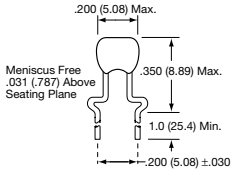
LEAD SPACING .200 ±.030

Dimensions: Inches (Millimeters)

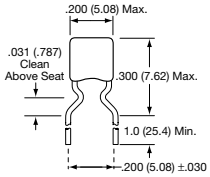
AR12/SR12*
(T=.100)



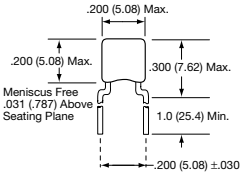
SR13*
(T=.125)



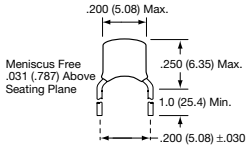
AR21/SR21*
(T=.125)



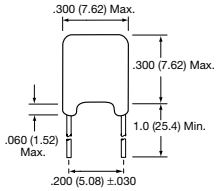
SR21-85*
(T=.125)



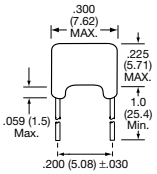
SR28*
(T=.125)



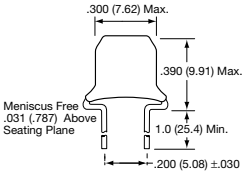
AR30/SR30*
(T=.150)



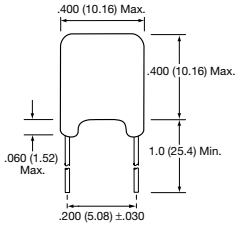
SR30-LP*
(T=.150)



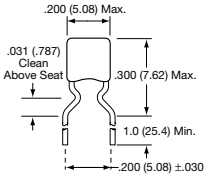
AR32/SR32*
(T=.150)



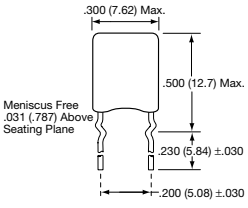
AR40/SR40*
(T=.150)



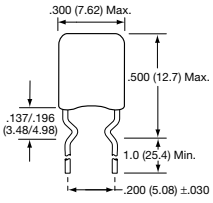
AR59/SR59*
(T=.125)



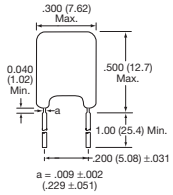
SR61
(T=.150)



SR63*
(T=.150)

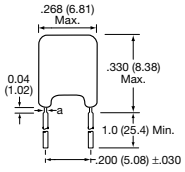


SR64*
(T=.150)



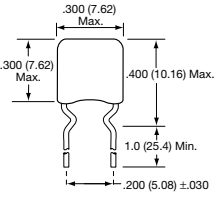
Leads = #22 AWG

SR64-LP*
(T=.150)



Leads = #22 AWG

AR65/SR65*
(T=.150)



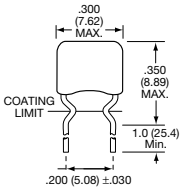
SkyCap®/AR Series

Configuration by Lead Spacing

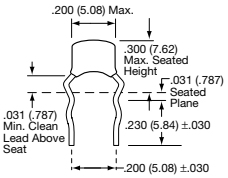
LEAD SPACING .200 ±.030 continued

Dimensions: Inches (Millimeters)

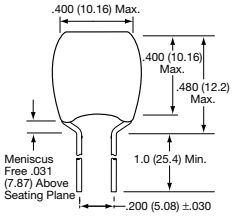
SR65-LP*
(T=.150)



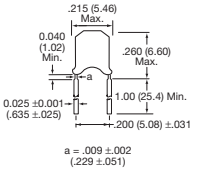
SR67
(T=.125)



AR75/SR75*
(T=.150)
Leads = #22 AWG



AR89/SR89*
(T=.125)

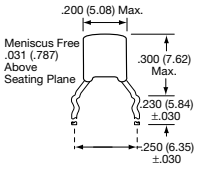


Leads = #22 AWG

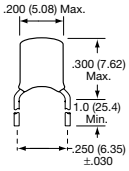
LEAD SPACING .250 ±.030

Dimensions: Inches (Millimeters)

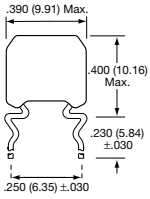
SR16
(T=.125)



SR22
(T=.125)

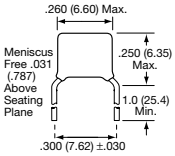


SR33
(T=.150)

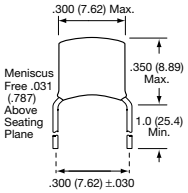


LEAD SPACING .300 ±.030

SR27
(T=.150)

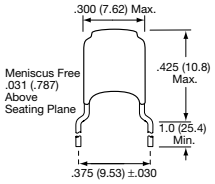


SR34
(T=.150)



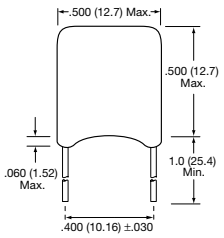
LEAD SPACING .375 ±.030

AR38/SR38
(T=.150)

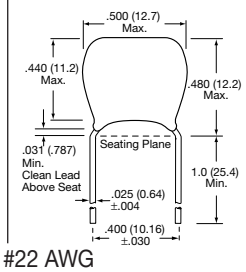


LEAD SPACING .400 ±.030

SR50
(T=.200)



SR76
(T=.175)



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.

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

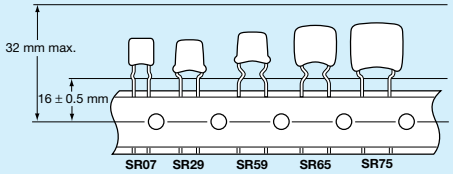
To specify tape and reel packaging, add TR1, TR2 or TRX to the end of the AVX 12 digit part number.

Examples:

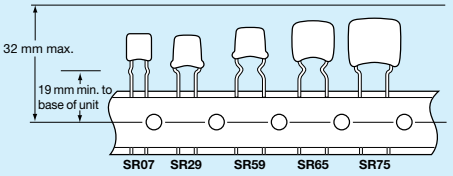
SR215C104KAATR1
SR305E105MAATR2
SR215C103JAATRX

THE INSERTABLES

STANDARD 1

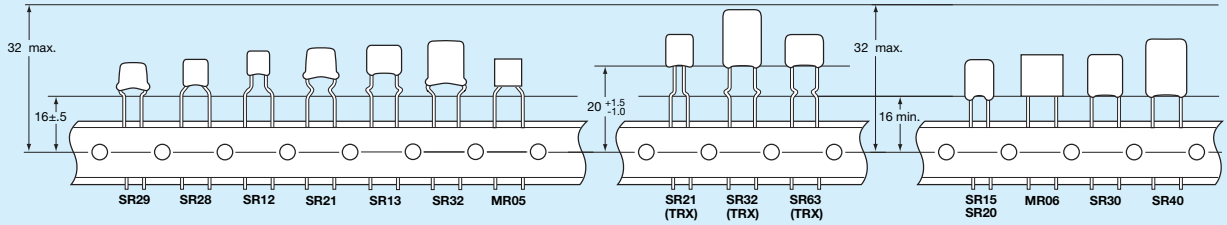


STANDARD 2



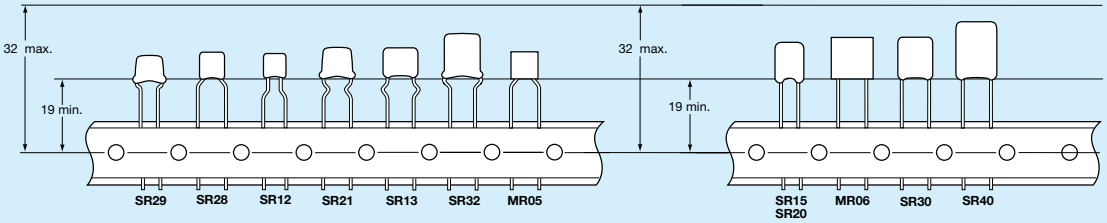
STANDARD 1

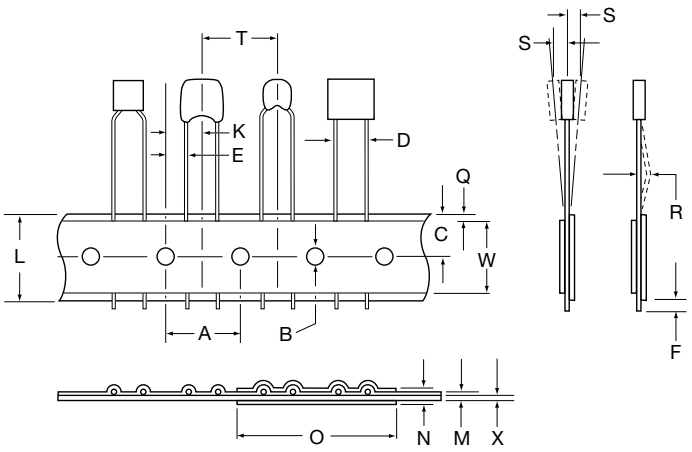
Dimensions in Millimeters



STANDARD 2

Dimensions in Millimeters

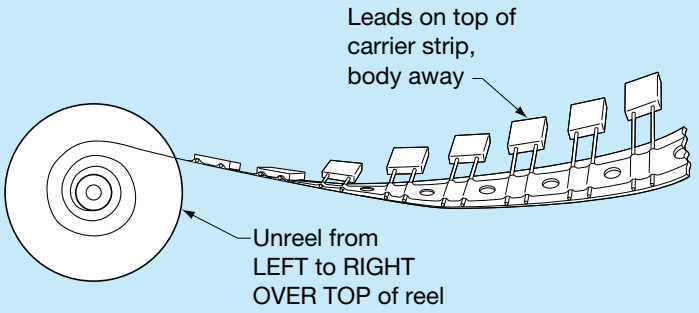




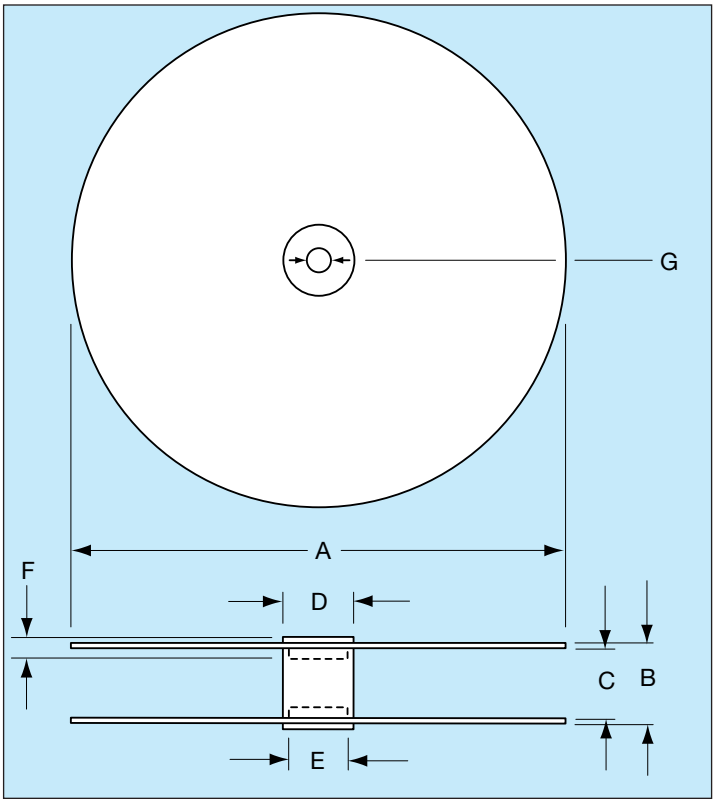
DESCRIPTION	DIMENSIONS (MM)
A. Feed Hole Pitch	12.70 ± .20
B. Feed Hole Diameter	3.99 ± .20
C. Feed Hole Location	9.02 ± .51
D. Component Lead Spacing	$5.00^{+.79}_{-.20}$ or $2.54^{+.79}_{-.20}$
E. Component Lead Location	3.81 ±.51 or 5.00 ±.51 for 2.54 lead spacing
F. Component Lead Protrusion (edge of carrier to cut end of lead)	2.00 maximum
K. Component Body Location	6.35 ±.41
L. Carrier Tape Width	$18.01^{+1.02}_{-.51}$
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



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