THE DATASHEET OF

SR151A220KAATR1

GENERAL INFORMATION

SR Series

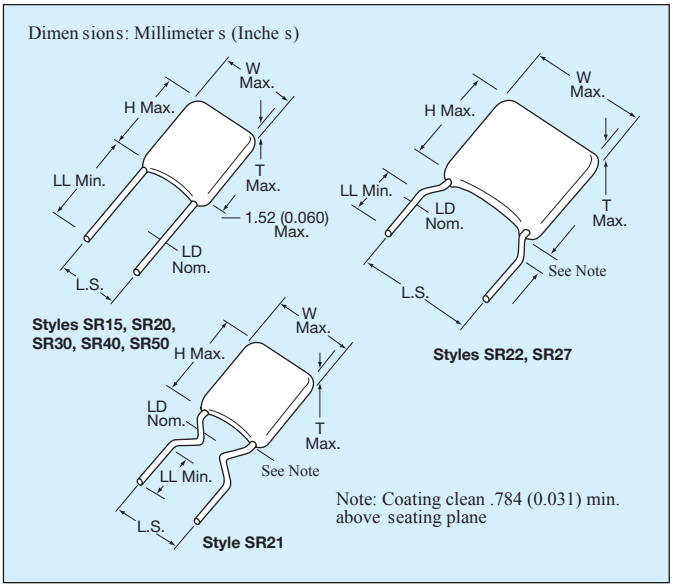
Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

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

Case Material: Epoxy

Lead Material: RoHS Compliant, 100% Tin



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

HOW TO ORDER

SR21	5	E	104	M	A	R	TR1
Style	Voltage	Temperature Coefficient	Capacitance	Capacitance Tolerance	Failure Rate	Leads	Packaging

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 = ±.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%

Failure Rate
A = Not Applicable

Leads
R = RoHS

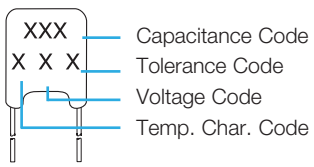
Packaging
Blank: Bulk Packaging 1.0" minimum of lead length
T: Trimmed leads .230" ± .030" Bulk packaging
TR1: Tape and Reel Packaging
AP1: Ammopack packaging

See packaging specification pages 33-34

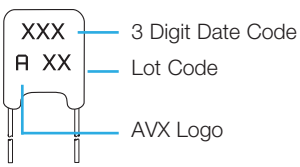
RoHS COMPLIANT

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 33 and 34.

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

Style		SR15			SR20			SR21			SR22			SR27			SR30		SR40		SR50	
"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			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	SR151A1R0DAR																					
10	**SR151A100KAR**																					
15	SR____A150KAR																					
22	SR____A220KAR																					
33	SR____A330KAR																					
39	SR____A390KAR																					
47	SR____A470KAR																					
68	SR____A680KAR																					
100	**SR151A101KAR**																					
150	SR____A151KAR																					
220	SR____A221KAR																					
330	SR____A331KAR																					
390	SR____A391KAR																					
470	SR____A471KAR																					
680	SR____A681KAR																					
1000	**SR211A102KAR**																					
1500	SR____A152KAR																					
2200	SR____A222KAR																					
3900	SR____A392KAR																					
4700	SR____A472KAR																					
6800	SR____A682KAR																					
8200	SR____A822KAR																					
10,000	SR____A103KAR																					
15,000	SR____A153KAR																					
22,000	SR____A223KAR																					
33,000	SR____A333KAR																					
39,000	SR____A393KAR																					
47,000	SR____A473KAR																					
68,000	SR____A683KAR																					
100,000	SR____A104KAR																					

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

Capacitance ranges available for SR12 and SR07 same as SR15
SR62 and SR59 same as SR21
SR64 and SR65 same as SR30
SR75 same as SR40
SR13 same as SR21

NOTE: For others voltages, tolerances, electrical specifications and NPO typical characteristics, see the KYOCERA AVX Multilayer Ceramic Leaded Capacitors Catalog.

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SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

	Style	SR15			SR20			SR21			SR22			SR27			SR30			SR40			SR50		
	"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			WVDC			WVDC			WVDC			WVDC			WVDC			WVDC			WVDC		
		200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50	200	100	50
470	SR____C471KAR																								
1000	**SR155C102KAR**																								
1500	SR____C152KAR																								
2200	SR____C222KAR																								
3300	SR____C332KAR																								
4700	SR____C472KAR																								
6800	SR____C682KAR																								
10,000	**SR215C103KAR**																								
15,000	SR____C153KAR																								
22,000	SR____C223KAR																								
33,000	SR____C333KAR																								
47,000	SR____C473KAR																								
68,000	SR____C683KAR																								
100,000	**SR215C104KAR**																								
150,000	SR____C154KAR																								
220,000	**SR215C224KAR**																								
330,000	SR____C334KAR																								
390,000	SR____C394KAR																								
470,000	**SR305C474KAR**																								
1.0 uF	**SR305C105KAR**																								
2.2 uF	SR405C225KAR																								
2.7 uF	SR505C275KAR																								
4.7 uF	SR505C475KAR																								
10.0 uF	SR655C106KAR																								

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

= Industry preferred values

= Extended range

= Extended range with 0.150" thickness maximum

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

Style	SR15		SR20		SR21		SR22		SR27		SR30		SR40		SR50	
"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	50	WVDC 100	50	WVDC 100	50	WVDC 100	50	WVDC 100	50	WVDC 100	50	WVDC 100	50	WVDC 100	50
10,000 SR155E103ZAR																
47,000 SR_____E473ZAR																
100,000 SR215E104ZAR																
150,000 SR_____E154ZAR																
220,000 SR215E224ZAR																
330,000 SR215E334ZAR																
470,000 SR215E474ZAR																
680,000 SR_____E684ZAR																
1.0 µF SR_____105ZAR																
1.5 µF SR30E155ZAR																
2.2 µF SR30E225ZAR																
3.3 µF SR30E335ZAR																
4.7 µF SR30E475ZAR																

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

Capacitance ranges available for
SR12 and SR07 same as SR15
SR62 and SR59 same as SR21
SR64 and SR65 same as SR30
SR75 same as SR40
SR13 same as SR21

NOTE: For others voltages, tolerances, electrical specifications and NPO typical characteristics, see the KYOCERA AVX Multilayer Ceramic Leaded Capacitors Catalog.

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

*Consult pages 27 and 28 for style sizes.

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

GENERAL INFORMATION

SL Series

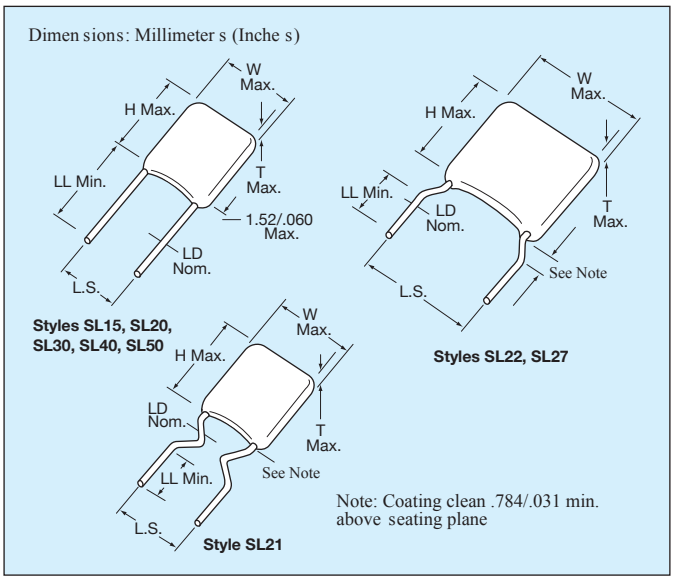
Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

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

Case Material: Epoxy

Lead Material: Solderable Sn/Pb



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

HOW TO ORDER

SL21	5	E	104	M	A	B	TR1
Style	Voltage	Temperature Coefficient	Capacitance	Capacitance Tolerance	Failure Rate	Leads	Packaging

Style
SL15
SL20
SL21
SL22
SL27
SL30
SL40
SL50

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 = ±.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%

Failure Rate
A = Not Applicable

Leads
B = Leads Sn/Pb (Tin lead product)

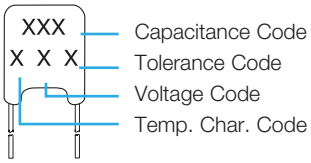
Packaging
Blank: Bulk Packaging 1.0" minimum of lead length
T: Trimmed leads .230" ± .030" Bulk packaging
TR1: Tape and Reel Packaging
AP1: Ammopack packaging

See packaging specification pages 33-34

Not RoHS Compliant

MARKING

FRONT



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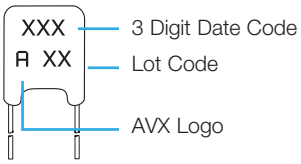

PACKAGING REQUIREMENTS

	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.

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

Style	SL15	SL20	SL21	SL22	SL27	SL30	SL40	SL50
"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 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	SL151A1R0DAB																					
10	**SL151A100KAB**																					
15	SL_____A150KAB																					
22	SL_____A220KAB																					
33	SL_____A330KAB																					
39	SL_____A390KAB																					
47	SL_____A470KAB																					
68	SL_____A680KAB																					
100	**SL151A101KAB**																					
150	SL_____A151KAB																					
220	SL_____A221KAB																					
330	SL_____A331KAB																					
390	SL_____A391KAB																					
470	SL_____A471KAB																					
680	SL_____A681KAB																					
1000	**SL211A102KAB**																					
1500	SL_____A152KAB																					
2200	SL_____A222KAB																					
3900	SL_____A392KAB																					
4700	SL_____A472KAB																					
6800	SL_____A682KAB																					
8200	SL_____A822KAB																					
10,000	**SL305A103KAB**																					
15,000	SL_____A153KAB																					
22,000	SL_____A223KAB																					
33,000	SL_____A333KAB																					
39,000	SL_____A393KAB																					
47,000	SL_____A473KAB																					
68,000	SL_____A683KAB																					
100,000	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

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

Style	SL15	SL20	SL21	SL22	SL27	SL30	SL40	SL50
"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 200	WVDC 100	WVDC 50	WVDC 200	WVDC 100	WVDC 50	WVDC 200	WVDC 100	WVDC 50	WVDC 200	WVDC 100	WVDC 200	WVDC 100	WVDC 200	WVDC 100	WVDC 50	WVDC 200	WVDC 100	WVDC 50	WVDC 200	WVDC 100	WVDC 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 uF	**SL305C105KAB**																					
2.2 uF	SL405C225KAB																					
2.7 uF	SL505C275KAB																					
4.7 uF	SL505C475KAB																					
10.0 uF	SL655C106KAB																					

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

= Industry preferred values

= Extended range

= Extended range with 0.150" thickness maximum

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SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

Style	SL15		SL20		SL21		SL22		SL27		SL30		SL40		SL50	
"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 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

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 SL65	7200 pF	.12 µF
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.

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