



**THE DATASHEET OF  
SR595E224ZARTR1**



# RADIAL LEADS

## SkyCap®/SR Series

### GENERAL INFORMATION

#### SR Series

Conformally Coated Radial Leaded MLC

Temperature Coefficients: COG (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

SR15  
SR20  
SR21  
SR22  
SR27  
SR30  
SR40  
SR50

#### Voltage

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

#### Temperature Coefficient

A = COG (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

COG (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



### 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.

# RADIAL LEADS

## COG (NP0) Dielectric



### SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

| Style                       | SR15                                 | SR20            | SR21            | SR22            | SR27            | SR30           | SR40            | SR50            |     |    |      |     |    |      |    |      |    |
|-----------------------------|--------------------------------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----|----|------|-----|----|------|----|------|----|
| <b>"Insertable"</b>         | <b>SR07</b>                          | <b>SR29</b>     | <b>SR59</b>     | <b>N/A</b>      | <b>N/A</b>      | <b>SR65</b>    | <b>SR75</b>     | <b>N/A</b>      |     |    |      |     |    |      |    |      |    |
| <b>Width (W)</b>            | 3.81<br>(.150)                       | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |     |    |      |     |    |      |    |      |    |
| <b>Height (H)</b>           | 3.81<br>(.150)                       | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |     |    |      |     |    |      |    |      |    |
| <b>Thickness (T)</b>        | 2.54<br>(.100)                       | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150)  | 5.08<br>(.200)  |     |    |      |     |    |      |    |      |    |
| <b>Lead Spacing (L.S.)</b>  | 2.54<br>(.100)                       | 2.54<br>(.100)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300)  | 5.08<br>(.200) | 5.08<br>(.200)  | 10.16<br>(.400) |     |    |      |     |    |      |    |      |    |
| <b>Lead Diameter (L.D.)</b> | .508<br>(.020)                       | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020)  | .635<br>(.025)  |     |    |      |     |    |      |    |      |    |
| Cap. in.*<br>pF             | Industry Preferred<br>Values in Blue | WVDC            |                 |                 | WVDC            |                |                 | WVDC            |     |    | WVDC |     |    | WVDC |    | WVDC |    |
|                             |                                      | 200             | 100             | 50              | 200             | 100            | 50              | 200             | 100 | 50 | 200  | 100 | 50 | 100  | 50 | 100  | 50 |
| 1.0-9.9                     | SR151A1R0DAR                         |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 10                          | <b>SR151A100KAR</b>                  |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 15                          | SR.....A150KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 22                          | SR.....A220KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 33                          | SR.....A330KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 39                          | SR.....A390KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 47                          | SR.....A470KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 68                          | SR.....A680KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 100                         | <b>SR151A101KAR</b>                  |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 150                         | SR.....A151KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 220                         | SR.....A221KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 330                         | SR.....A331KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 390                         | SR.....A391KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 470                         | SR.....A471KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 680                         | SR.....A681KAR                       |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 1000                        | <b>SR211A102KAR</b>                  |                 |                 |                 |                 |                |                 |                 |     |    |      |     |    |      |    |      |    |
| 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.

# RADIAL LEADS

## X7R Dielectric



### SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

|                 | Style                                | SR15           |                |                | SR20            |                 |                 | SR21            |                 |                 | SR22            |                 |                 | SR27            |                 |                | SR30           |                |                 | SR40            |                 |                 | SR50            |                 |    |
|-----------------|--------------------------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----|
|                 |                                      | SR07           | SR07           | SR07           | SR29            | SR29            | SR29            | SR59            | SR59            | SR59            | N/A             | N/A             | N/A             | N/A             | N/A             | SR65           | SR65           | SR65           | SR75            | SR75            | SR75            | N/A             | N/A             | N/A             |    |
|                 | Width (W)                            | 3.81<br>(.150) | 3.81<br>(.150) | 3.81<br>(.150) | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 6.604<br>(.260) | 6.604<br>(.260) | 7.62<br>(.300) | 7.62<br>(.300) | 7.62<br>(.300) | 10.16<br>(.400) | 10.16<br>(.400) | 10.16<br>(.400) | 12.70<br>(.500) | 12.70<br>(.500) | 12.70<br>(.500) |    |
|                 | Height (H)                           | 3.81<br>(.150) | 3.81<br>(.150) | 3.81<br>(.150) | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 6.35<br>(.250)  | 6.35<br>(.250)  | 7.62<br>(.300) | 7.62<br>(.300) | 7.62<br>(.300) | 10.16<br>(.400) | 10.16<br>(.400) | 10.16<br>(.400) | 12.70<br>(.500) | 12.70<br>(.500) | 12.70<br>(.500) |    |
|                 | Thickness (T)                        | 2.54<br>(.100) | 2.54<br>(.100) | 2.54<br>(.100) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 4.06<br>(.160)  | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150) | 3.81<br>(.150) | 3.81<br>(.150)  | 3.81<br>(.150)  | 3.81<br>(.150)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  |    |
|                 | Lead Spacing (L.S.)                  | 2.54<br>(.100) | 2.54<br>(.100) | 2.54<br>(.100) | 2.54<br>(.100)  | 2.54<br>(.100)  | 2.54<br>(.100)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 6.35<br>(.250)  | 6.35<br>(.250)  | 5.08<br>(.200) | 5.08<br>(.200) | 5.08<br>(.200) | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 10.16<br>(.400) | 10.16<br>(.400) |    |
|                 | Lead Diameter (L.D.)                 | .508<br>(.020) | .508<br>(.020) | .508<br>(.020) | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020) | .508<br>(.020) | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .635<br>(.025)  |    |
| Cap. in.*<br>pF | Industry Preferred<br>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

# RADIAL LEADS

## Z5U Dielectric



### 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<br>(.150)                       | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |    |      |    |      |    |      |    |
| Height (H)           | 3.81<br>(.150)                       | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |    |      |    |      |    |      |    |
| Thickness (T)        | 2.54<br>(.100)                       | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150)  | 5.08<br>(.200)  |    |      |    |      |    |      |    |
| Lead Spacing (L.S.)  | 2.54<br>(.100)                       | 2.54<br>(.100)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300)  | 5.08<br>(.200) | 5.08<br>(.200)  | 10.16<br>(.400) |    |      |    |      |    |      |    |
| Lead Diameter (L.D.) | .508<br>(.020)                       | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020)  | .635<br>(.025)  |    |      |    |      |    |      |    |
| Cap. in.*<br>pF      | Industry Preferred<br>Values in Blue | WVDC            |                 | WVDC            |                 | WVDC           |                 | WVDC            |    | WVDC |    | WVDC |    | WVDC |    |
|                      |                                      | 100             | 50              | 100             | 50              | 100            | 50              | 100             | 50 | 100  | 50 | 100  | 50 | 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 (NPO)                 | X7R     |
| SR29                 | 900 pF                    | .015 µF |
| SR20                 | 1800 pF                   | .033 µF |
| SR28<br>SR59         | 900 pF                    | .015 µF |
| SR13<br>SR21         | 1800 pF                   | .033 µF |
| SR30<br>SR61<br>SR65 | 7200 pF                   | .12 µF  |
| SR40<br>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.



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

# RADIAL LEADS

## SkyCap®/SL Series

### GENERAL INFORMATION

#### SL Series

#### Conformally Coated Radial Leaded MLC

Temperature Coefficients: COG (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

SL15  
SL20  
SL21  
SL22  
SL27  
SL30  
SL40  
SL50

#### Voltage

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

#### Temperature Coefficient

A = COG (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

COG (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 Blank: (Tin lead product)

#### Packaging

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



#### BACK



### 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

## COG (NP0) Dielectric



### SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

| Style                       | SL15  | SL20            | SL21            | SL22            | SL27            | SL30           | SL40            | SL50            |
|-----------------------------|---|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| <b>"Insertable"</b>         | <b>SL07</b>   | <b>SL29</b>     | <b>SL59</b>     | <b>N/A</b>      | <b>N/A</b>      | <b>SL65</b>    | <b>SL75</b>     | <b>N/A</b>      |
| <b>Width (W)</b>            | 3.81<br>(.150)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |
| <b>Height (H)</b>           | 3.81<br>(.150)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |
| <b>Thickness (T)</b>        | 2.54<br>(.100)  | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150)  | 5.08<br>(.200)  |
| <b>Lead Spacing (L.S.)</b>  | 2.54<br>(.100)  | 2.54<br>(.100)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300)  | 5.08<br>(.200) | 5.08<br>(.200)  | 10.16<br>(.400) |
| <b>Lead Diameter (L.D.)</b> | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020)  | .635<br>(.025)  |
| <b>Cap. in.*<br/>pF</b>     | <b>Industry Preferred<br/>Values in Blue</b>                | <b>WVDC</b>     | <b>WVDC</b>     | <b>WVDC</b>     | <b>WVDC</b>     | <b>WVDC</b>    | <b>WVDC</b>     | <b>WVDC</b>     |
|                             |   | 200   100   50  | 200   100   50  | 200   100   50  | 200   100   50  | 200   100   50 | 200   100   50  | 200   100   50  |
| 1.0-9.9                     | SL151A1R0DAB<br><b>10 SL151A100KAB</b><br>15 SL.....A150KAB |                 |                 |                 |                 |                |                 |                 |
| 22                          | SL.....A220KAB  |                 |                 |                 |                 |                |                 |                 |
| 33                          | SL.....A330KAB  |                 |                 |                 |                 |                |                 |                 |
| 39                          | SL.....A390KAB  |                 |                 |                 |                 |                |                 |                 |
| 47                          | SL.....A470KAB  |                 |                 |                 |                 |                |                 |                 |
| 68                          | SL.....A680KAB  |                 |                 |                 |                 |                |                 |                 |
| <b>100 SL151A101KAB</b>     |   |                 |                 |                 |                 |                |                 |                 |
| 150                         | SI.....A151KAB  |                 |                 |                 |                 |                |                 |                 |
| 220                         | SI.....A221KAB  |                 |                 |                 |                 |                |                 |                 |
| 330                         | SI.....A331KAB  |                 |                 |                 |                 |                |                 |                 |
| 390                         | SI.....A391KAB  |                 |                 |                 |                 |                |                 |                 |
| 470                         | SI.....A471KAB  |                 |                 |                 |                 |                |                 |                 |
| 680                         | SI.....A681KAB  |                 |                 |                 |                 |                |                 |                 |
| <b>1000 SL211A102KAB</b>    |   |                 |                 |                 |                 |                |                 |                 |
| 1500                        | SI.....A152KAB  |                 |                 |                 |                 |                |                 |                 |
| 2200                        | SI.....A222KAB  |                 |                 |                 |                 |                |                 |                 |
| 3900                        | SI.....A392KAB  |                 |                 |                 |                 |                |                 |                 |
| 4700                        | SI.....A472KAB  |                 |                 |                 |                 |                |                 |                 |
| 6800                        | SI.....A682KAB  |                 |                 |                 |                 |                |                 |                 |
| 8200                        | SI.....A822KAB  |                 |                 |                 |                 |                |                 |                 |
| <b>10,000 SL305A103KAB</b>  |   |                 |                 |                 |                 |                |                 |                 |
| 15,000                      | SI.....A153KAB  |                 |                 |                 |                 |                |                 |                 |
| 22,000                      | SI.....A223KAB  |                 |                 |                 |                 |                |                 |                 |
| 33,000                      | SI.....A333KAB  |                 |                 |                 |                 |                |                 |                 |
| 39,000                      | SI.....A393KAB  |                 |                 |                 |                 |                |                 |                 |
| 47,000                      | SI.....A473KAB  |                 |                 |                 |                 |                |                 |                 |
| 68,000                      | SI.....A683KAB  |                 |                 |                 |                 |                |                 |                 |
| 100,000                     | SI.....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

## X7R Dielectric



### 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             |    |             |     |    |             |     |    |             |     |    |
| <b>Width (W)</b>                                   | 3.81<br>(.150) | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |    |             |     |    |             |     |    |             |     |    |
| <b>Height (H)</b>                                  | 3.81<br>(.150) | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |    |             |     |    |             |     |    |             |     |    |
| <b>Thickness (T)</b>                               | 2.54<br>(.100) | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150)  | 5.08<br>(.200)  |    |             |     |    |             |     |    |             |     |    |
| <b>Lead Spacing (L.S.)</b>                         | 2.54<br>(.100) | 2.54<br>(.100)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300)  | 5.08<br>(.200) | 5.08<br>(.200)  | 10.16<br>(.400) |    |             |     |    |             |     |    |             |     |    |
| <b>Lead Diameter (L.D.)</b>                        | .508<br>(.020) | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020)  | .635<br>(.025)  |    |             |     |    |             |     |    |             |     |    |
| <b>Cap. in.* Industry Preferred Values in Blue</b> | <b>WVDC</b>    |                 |                 | <b>WVDC</b>     |                 |                | <b>WVDC</b>     |                 |    | <b>WVDC</b> |     |    | <b>WVDC</b> |     |    | <b>WVDC</b> |     |    |
|  | 200            | 100             | 50              | 200             | 100             | 50             | 200             | 100             | 50 | 200         | 100 | 50 | 200         | 100 | 50 | 200         | 100 | 50 |
| 470 SL.....C471KAB                                 |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| <b>1000 SL155C102KAB</b>                           |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 1500 SL.....C152KAB                                |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 2200 SL.....C222KAB                                |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 3300 SL.....C332KAB                                |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 4700 SL.....C472KAB                                |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 6800 SL.....C682KAB                                |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| <b>10,000 SL215C103KAB</b>                         |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 15,000 SL.....C153KAB                              |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 22,000 SL.....C223KAB                              |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 33,000 SL.....C333KAB                              |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 47,000 SL.....C473KAB                              |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 68,000 SL.....C683KAB                              |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| <b>100,000 SL215C104KAB</b>                        |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 150,000 SL.....C154KAB                             |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 220,000 <b>SL215C224KAB</b>                        |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 330,000 SL.....C334KAB                             |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 390,000 SL.....C394KAB                             |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| <b>470,000 SL305C474KAB</b>                        |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| <b>1.0 uF SL305C105KAB</b>                         |                |                 |                 |                 |                 |                |                 |                 |    |             |     |    |             |     |    |             |     |    |
| 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

# RADIAL LEADS

## Z5U Dielectric



### 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             |           |             |           |             |           |             |           |
| <b>Width (W)</b>            | 3.81<br>(.150)                           | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.604<br>(.260) | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |           |             |           |             |           |             |           |
| <b>Height (H)</b>           | 3.81<br>(.150)                           | 5.08<br>(.200)  | 5.08<br>(.200)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300) | 10.16<br>(.400) | 12.70<br>(.500) |           |             |           |             |           |             |           |
| <b>Thickness (T)</b>        | 2.54<br>(.100)                           | 3.175<br>(.125) | 3.175<br>(.125) | 3.175<br>(.125) | 4.06<br>(.160)  | 3.81<br>(.150) | 3.81<br>(.150)  | 5.08<br>(.200)  |           |             |           |             |           |             |           |
| <b>Lead Spacing (L.S.)</b>  | 2.54<br>(.100)                           | 2.54<br>(.100)  | 5.08<br>(.200)  | 6.35<br>(.250)  | 7.62<br>(.300)  | 5.08<br>(.200) | 5.08<br>(.200)  | 10.16<br>(.400) |           |             |           |             |           |             |           |
| <b>Lead Diameter (L.D.)</b> | .508<br>(.020)                           | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020)  | .508<br>(.020) | .508<br>(.020)  | .635<br>(.025)  |           |             |           |             |           |             |           |
| <b>Cap. in.*</b>            | <b>Industry Preferred Values in Blue</b> | <b>WVDC</b>     |                 | <b>WVDC</b>     |                 | <b>WVDC</b>    |                 | <b>WVDC</b>     |           | <b>WVDC</b> |           | <b>WVDC</b> |           | <b>WVDC</b> |           |
| <b>pF</b>                   |  | <b>100</b>      | <b>50</b>       | <b>100</b>      | <b>50</b>       | <b>100</b>     | <b>50</b>       | <b>100</b>      | <b>50</b> | <b>100</b>  | <b>50</b> | <b>100</b>  | <b>50</b> | <b>100</b>  | <b>50</b> |
| 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 |         |
|--------|---------------------------|---------|
|        | COG (NP0)                 | X7R     |
| SL29   | 900 pF                    | .015 µF |
| SL20   | 1800 pF                   | .033 µF |
| SL28   | 900 pF                    | .015 µF |
| SL59   |                           |         |
| SL13   | 1800 pF                   | .033 µF |
| SL21   |                           |         |
| SL30   | 7200 pF                   | .12 µF  |
| SL61   |                           |         |
| SL65   |                           |         |
| SL40   | .015 µF                   | .27 µF  |
| SL75   |                           |         |
| 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.



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

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View SR595E224ZARTR1 on WIN SOURCE](#)
- ⊖ [AVX Corp/Kyocera Corp Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management