

# RADIAL LEADS

## SkyCap®/SR Series



### GENERAL INFORMATION

#### AVX SR Series

Conformally Coated Radial Ledged 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



### HOW TO ORDER

| SR21   | 5   | E                                   | 104   | M  | A   | R                              | TR1  |
|--|---|-------------------------------------|---|--|---|--------------------------------|--|
| <b>AVX Style</b>   | <b>Voltage</b>  | <b>Temperature Coefficient</b>      | <b>Capacitance</b>  | <b>Capacitance Tolerance</b>   | <b>Failure Rate</b>   | <b>Leads</b>                   | <b>Packaging</b>   |
| SR15<br>SR20<br>SR21<br>SR22<br>SR27<br>SR30<br>SR40<br>SR50 | 5 = 50V<br>1 = 100V<br>2 = 200V<br>9 = 300V<br>8 = 400V<br>7 = 500V | A = COG (NP0)<br>C = X7R<br>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) | COG (NP0):<br>C = ±.25pF<br>D = ±.5pF<br>F = ±1% (>50pF only)<br>G = ±2% (>25pF only)<br>J = ±5%<br>K = ±10% | X7R:<br>J = ±5%<br>K = ±10%<br>M = ±20%<br>Z5U:<br>M = ±20%<br>Z = +80%<br>-20% | A = Not Applicable<br>R = RoHS | Blank: Bulk Packaging 1.0" minimum of lead length<br>T: Trimmed leads .230" ± .030" Bulk packaging<br>TR1: Tape and Reel Packaging<br>AP1: Ammopack packaging<br><br>See packaging specification pages 33-34 |

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



### MARKING



### 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)

| AVX Style                   | SR15                                 | SR20            | SR21            | SR22            | SR27            | SR30           | SR40            | SR50            |     |    |      |     |    |      |     |      |     |      |     |    |  |
|-----------------------------|--------------------------------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----|----|------|-----|----|------|-----|------|-----|------|-----|----|--|
| AVX "Insertable"            | SR07                                 | SR29            | SR59            | N/A             | N/A             | SR65           | SR75            | 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)  |     |    |      |     |    |      |     |      |     |      |     |    |  |
| Cap. in.*<br>pF             | Industry Preferred<br>Values in Blue | 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 |  |
| 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 AVX Multilayer Ceramic Leaded Capacitors Catalog.



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# RADIAL LEADS

## 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             | SR65 | SR75 | N/A | SR65 | SR75 | N/A | SR65 | SR75 | N/A | SR65 | SR75 | N/A | SR65 | SR75 | N/A |
|                 | Width (W)                            | 3.81<br>(.150)   | 5.08<br>(.200)  | 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)  | 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) | 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)  | 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) | .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)

| 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<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<br>100 50  | WVDC<br>100 50  | WVDC<br>100 50  | WVDC<br>100 50  | WVDC<br>100 50 | WVDC<br>100 50  | WVDC<br>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 AVX Multilayer Ceramic Leaded Capacitors Catalog.

### AVX 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.



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