

RADIAL LEADS

SkyCap®/AR Series – Automotive

GENERAL INFORMATION

AR Series

Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, X8R

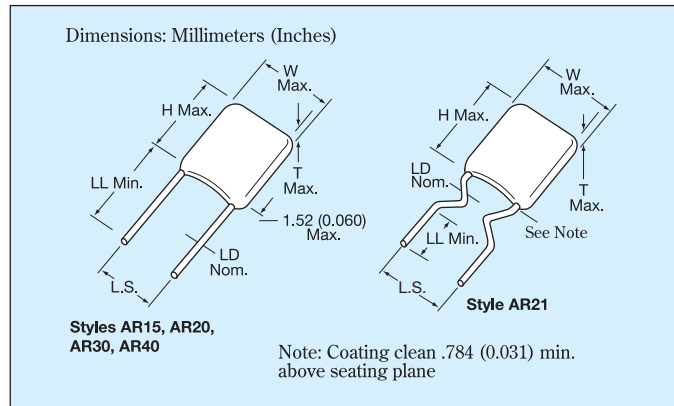
3000, 2000, 1000, 200, 100, 50 Volts

Case Material: Epoxy

Lead Material: RoHS Compliant, 100% Tin

Qualified: to AEC-Q200, PPAP Available

Temperature Range: up to 150°C



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

HOW TO ORDER

AR21

Style

5

Voltage
5 = 50V
1 = 100V
2 = 200V
A = 1000V
G = 2000V
H = 3000V

F

Temperature Coefficient
A = C0G (NP0)
C = X7R
F = X8R
L = X8L

104

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.)

M

Capacitance Tolerance
C0G (NP0):
C = ±.25pF
D = ±.5pF
F = ±1% (>50pF only)
G = ±2% (>25pF only)
J = ±5%
K = ±10%
X7R:
J = ±5%
K = ±10%
M = ±20%
X8R:
J = ±5%
K = ±10%
M = ±20%

4

Failure Rate
4 = AEC-Q200

R

Leads
R = RoHS

TR1

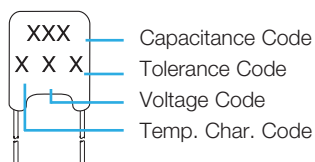
Packaging
Blank: Bulk Packaging 1.0" minimum of lead length
T: Trimmed leads .230" ± .030"
Bulk packaging
TR1: Tape and Reel Packaging
AP1: Ammopack packaging

See packaging specification pages 33-34

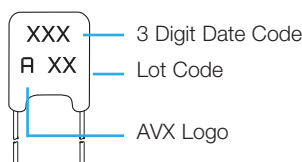


MARKING

FRONT



BACK



PACKAGING REQUIREMENTS

| | Quantity per Bag |
|------------------|------------------|
| AR15, 20, 21, 30 | 1000 Pieces |
| AR40 | 500 Pieces |

Note: AR15, AR20, AR21, AR30, and AR40 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 | | AR15 | AR20 | AR21 | | | | | | |
|----------------------|-----------------------------------|----------------|-----------------|-----------------|------|-----|----|------|-----|----|
| "Insertable" | | AR07 | AR29 | AR59 | | | | | | |
| Width (W) | | 3.81 (.150) | 5.08 (.200) | 5.08 (.200) | | | | | | |
| Height (H) | | 3.81 (.150) | 5.08 (.200) | 5.08 (.200) | | | | | | |
| Thickness (T) | | 2.54 (.100) | 3.175 (.125) | 3.175 (.125) | | | | | | |
| Lead Spacing (L.S.) | | 2.54 (.100) | 2.54 (.100) | 5.08 (.200) | | | | | | |
| Lead Diameter (L.D.) | | .508 (.020) | .508 (.020) | .508 (.020) | | | | | | |
| Cap. in. pF | Industry Preferred Values in Blue | WVDC | | | WVDC | | | WVDC | | |
| | | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 |
| 1 | AR----A1R0D4R | | | | | | | | | |
| 10 | AR----A100K4R | | | | | | | | | |
| 15 | AR----A150K4R | | | | | | | | | |
| 22 | AR----A220K4R | | | | | | | | | |
| 33 | AR----A330K4R | | | | | | | | | |
| 39 | AR----A390K4R | | | | | | | | | |
| 47 | AR----A470K4R | | | | | | | | | |
| 68 | AR----A680K4R | | | | | | | | | |
| 100 | AR----A101K4R | | | | | | | | | |
| 150 | AR----A151K4R | | | | | | | | | |
| 220 | AR----A221K4R | | | | | | | | | |
| 330 | AR----A331K4R | | | | | | | | | |
| 390 | AR----A391K4R | | | | | | | | | |
| 470 | AR----A471K4R | | | | | | | | | |
| 680 | AR----A681K4R | | | | | | | | | |
| 1,000 | AR----A102K4R | | | | | | | | | |
| 1,500 | AR----A152K4R | | | | | | | | | |
| 2,200 | AR----A222K4R | | | | | | | | | |
| 3,900 | AR----A392K4R | | | | | | | | | |
| 4,700 | AR----A472K4R | | | | | | | | | |
| 6800 | AR----A682K4R | | | | | | | | | |
| 8200 | AR----A822K4R | | | | | | | | | |

Notes:

"Insertable" make reference to alternative KYOCERA AVX style using the same range of capacitance available on the matrix.

For others Styles, voltages, tolerance and lead lengths see Skycap catalog or contact factory.

Others capacitance values available upon special request.

Others styles available: AR12, AR14, AR62, AR89.

RADIAL LEADS

X7R Dielectric



SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

| Style | | AR15 | AR20 | AR21 | AR30 | AR40 | | | |
|----------------------|-----------------------------------|----------------|-----------------|-----------------|----------------|-----------------|----|------|----|
| "Insertable" | | AR07 | AR29 | AR59 | AR65 | AR75 | | | |
| Width (W) | | 3.81 (.150) | 5.08 (.200) | 5.08 (.200) | 7.62 (.300) | 10.16 (.400) | | | |
| Height (H) | | 3.81 (.150) | 5.08 (.200) | 5.08 (.200) | 7.62 (.300) | 10.16 (.400) | | | |
| Thickness (T) | | 2.54 (.100) | 3.175 (.125) | 3.175 (.125) | 3.81 (.150) | 3.81 (.150) | | | |
| Lead Spacing (L.S.) | | 2.54 (.100) | 2.54 (.100) | 5.08 (.200) | 5.08 (.200) | 5.08 (.200) | | | |
| Lead Diameter (L.D.) | | .508 (.020) | .508 (.020) | .508 (.020) | .508 (.020) | .508 (.020) | | | |
| Cap. in. pF | Industry Preferred Values in Blue | WVDC | | WVDC | | WVDC | | WVDC | |
| | | 100 | 50 | 100 | 50 | 100 | 50 | 100 | 50 |
| 470 | AR----C471K4R | | | | | | | | |
| 1000 | AR----C102K4R | | | | | | | | |
| 1500 | AR----C152K4R | | | | | | | | |
| 2200 | AR----C222K4R | | | | | | | | |
| 3300 | AR----C332K4R | | | | | | | | |
| 4700 | AR----C472K4R | | | | | | | | |
| 6800 | AR----C682K4R | | | | | | | | |
| 10,000 | AR----C103K4R | | | | | | | | |
| 15,000 | AR----C153K4R | | | | | | | | |
| 22,000 | AR----C223K4R | | | | | | | | |
| 33,000 | AR----C333K4R | | | | | | | | |
| 47,000 | AR----C473K4R | | | | | | | | |
| 68,000 | AR----C683K4R | | | | | | | | |
| 100,000 | AR----C104K4R | | | | | | | | |
| 150,000 | AR----C154K4R | | | | | | | | |
| 220,000 | AR----C224K4R | | | | | | | | |
| 330,000 | AR----C334K4R | | | | | | | | |
| 390,000 | AR----C394K4R | | | | | | | | |
| 470,000 | AR----C474K4R | | | | | | | | |
| 680,000 | AR----C684K4R | | | | | | | | |
| 1.0 uF | AR----C105K4R | | | | | | | | |
| 4,700,000 | AR----C475K4R | | | | | | | | |
| 6,800,000 | AR----C685K4R | | | | | | | | |
| 10.0 uF | AR----C106K4R | | | | | | | | |

= Extended range with 0.150" thickness maximum

Notes:

"Insertable" make reference to alternative KYOCERA AVX style using the same range of capacitance available on the matrix.

For others Styles, voltages, tolerance and lead lengths see Skycap catalog or contact factory.

Others capacitance values available upon special request.

Others styles available: AR12, AR14, AR62, AR89, AR32, AR38.

RADIAL LEADS

X8R Dielectric "F"

GENERAL INFORMATION

AR Series

Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, X8R

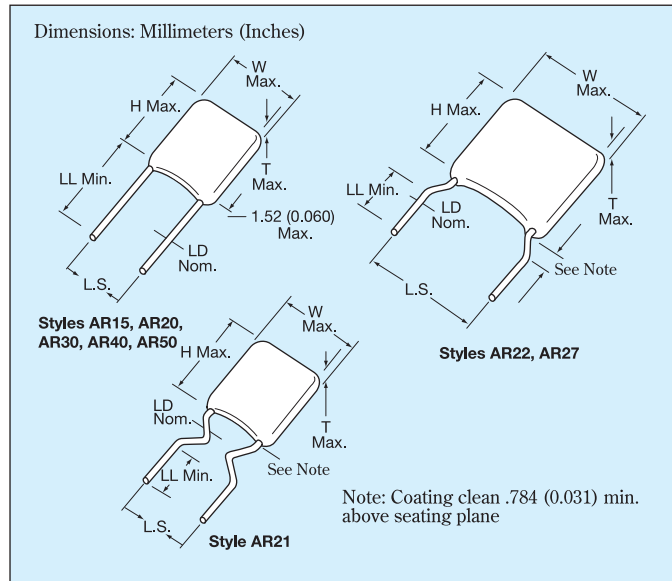
200, 100, 50 Volts

Case Material: Epoxy

Lead Material: Solderable

Qualified: to AEC-Q200

Temperature Range: up to 150°C



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

HOW TO ORDER

AR21

Style

5

Voltage
5 = 50V
1 = 100V
2 = 200V

F

Temperature Coefficient
F = X8R

104

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.)

M

Capacitance Tolerance
X8R:
J = ±5%
K = ±10%
M = ±20%

4

Failure Rate
4 = AEC-Q200

R

Leads
R = RoHS

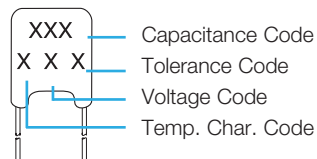
TR1

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

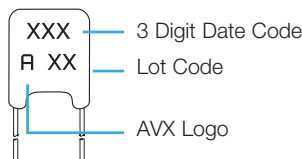
See packaging specification pages 33-34

MARKING

FRONT



BACK



PACKAGING REQUIREMENTS

| | Quantity per Bag |
|------------------|------------------|
| AR15, 20, 21, 30 | 1000 Pieces |
| AR40 | 500 Pieces |

Note: AR15, AR20, AR21, AR30, and AR40 available on tape and reel per EIA specifications RS-468. See pages 33 and 34.



RADIAL LEADS

X8R Dielectric



SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic Dimensions: Millimeters (Inches)

| Style | | AR20 | | | AR21 | | |
|----------------------|-----------------------------------|-----------------|-----|----|-----------------|-----|----|
| "Insertable" | | AR29 | | | AR59 | | |
| Width (W) | | 5.08 (.200) | | | 5.08 (.200) | | |
| Height (H) | | 5.08 (.200) | | | 5.08 (.200) | | |
| Thickness (T) | | 3.175 (.125) | | | 3.175 (.125) | | |
| Lead Spacing (L.S.) | | 2.54 (.100) | | | 5.08 (.200) | | |
| Lead Diameter (L.D.) | | .508 (.020) | | | .508 (.020) | | |
| Cap. in. pF | Industry Preferred Values in Blue | WVDC | | | WVDC | | |
| | | 200 | 100 | 50 | 200 | 100 | 50 |
| 1,000 | AR----F102K4R | | | | | | |
| 10,000 | AR----F103K4R | | | | | | |
| 100,000 | AR----F104K4R | | | | | | |
| 330,000 | AR----F334K4R | | | | | | |

Notes:

"Insertable" make reference to alternative KYOCERA AVX style using the same range of capacitance available on the matrix.

For others Styles, voltages, tolerance and lead lengths see Skycap catalog or contact factory.

Others capacitance values available upon special request.

Others styles available: AR14, AR62, AR89.

RADIAL LEADS

X8L Dielectric

STYLES AND CAPACITANCE SPECIFICATIONS

EIA Characteristics

| Style | | AR15 | | AR20 | | AR21 | |
|----------------|---------------------------|------|----|------|----|------|----|
| "Insertable" | | AR07 | | AR29 | | AR59 | |
| Cap. in pF | Industry Preferred Values | WVDC | | WVDC | | WVDC | |
| | | 100 | 50 | 100 | 50 | 100 | 50 |
| 470 | AR____L471K4R | | | | | | |
| 1,000 | AR____L102K4R | | | | | | |
| 1,500 | AR____L152K4R | | | | | | |
| 2,200 | AR____L222K4R | | | | | | |
| 3,300 | AR____L332K4R | | | | | | |
| 4,700 | AR____L472K4R | | | | | | |
| 6,800 | AR____L682K4R | | | | | | |
| 10,000 | AR____L103K4R | | | | | | |
| 15,000 | AR____L153K4R | | | | | | |
| 22,000 | AR____L223K4R | | | | | | |
| 33,000 | AR____L333K4R | | | | | | |
| 47,000 | AR____L473K4R | | | | | | |
| 68,000 | AR____L683K4R | | | | | | |
| 100,000 | AR____L104K4R | | | | | | |
| 150,000 | AR____L154K4R | | | | | | |
| 220,000 | AR____L224K4R | | | | | | |
| 330,000 | AR____L334K4R | | | | | | |
| 390,000 | AR____L394K4R | | | | | | |
| 470,000 | AR____L474K4R | | | | | | |
| 680,000 | AR____L684K4R | | | | | | |
| 1.0 uF | AR____L105K4R | | | | | | |
| 4700,000 | AR____L475K4R | | | | | | |
| 6800,000 | AR____L685K4R | | | | | | |
| 10.0 uF | AR____L106K4R | | | | | | |

RADIAL LEADS

High Voltage Automotive Product SkyCap Capacitors - X7R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic Dimensions: Millimeters (Inches)

| | Style | AR20 | AR21 | AR22 | AR27 | AR30 | |
|----------------|--------------------------------------|--------------|--------------|--------------|--------------|------|------|
| | "Insertable" | AR29 | AR59 | N/A | N/A | AR65 | |
| Cap. in. pF | Industry Preferred Values in Blue | WVDC 1000 | WVDC 1000 | WVDC 1000 | WVDC 1000 | WVDC | |
| | | | | | | 2000 | 3000 |
| 470 | AR____C471K4R | | | | | | |
| 1000 | AR____C102K4R | | | | | | |
| 1500 | AR____C152K4R | | | | | | |
| 2200 | AR____C222K4R | | | | | | |
| 3300 | AR____C332K4R | | | | | | |
| 4700 | AR____C472K4R | | | | | | |
| 6800 | AR____C682K4R | | | | | | |
| 10,000 | AR____C103K4R | | | | | | |
| 15,000 | AR____C153K4R | | | | | | |
| 22,000 | AR____C223K4R | | | | | | |
| 47,000 | AR____C473K4R | | | | | | |
| 68,000 | AR____C683K4R | | | | | | |

For others Styles, voltages, tolerance and lead lengths see Skycap catalog or contact factory.

RADIAL LEADS

SkyCap® Configurations by Lead Spacing

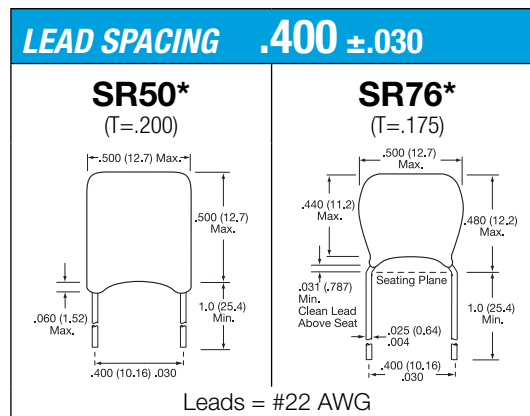
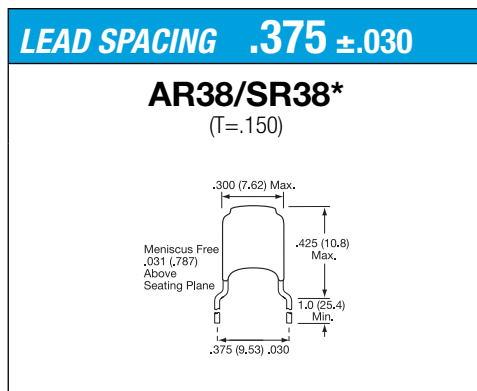
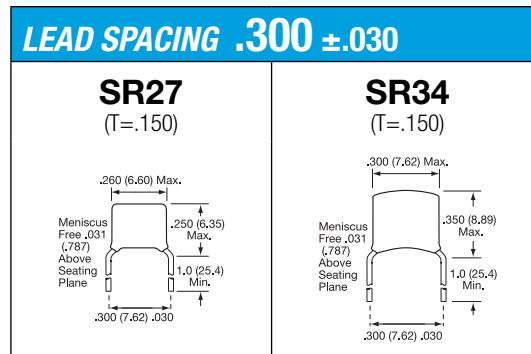
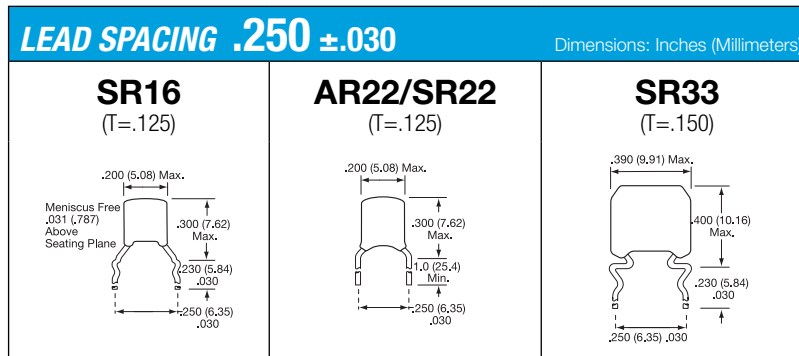
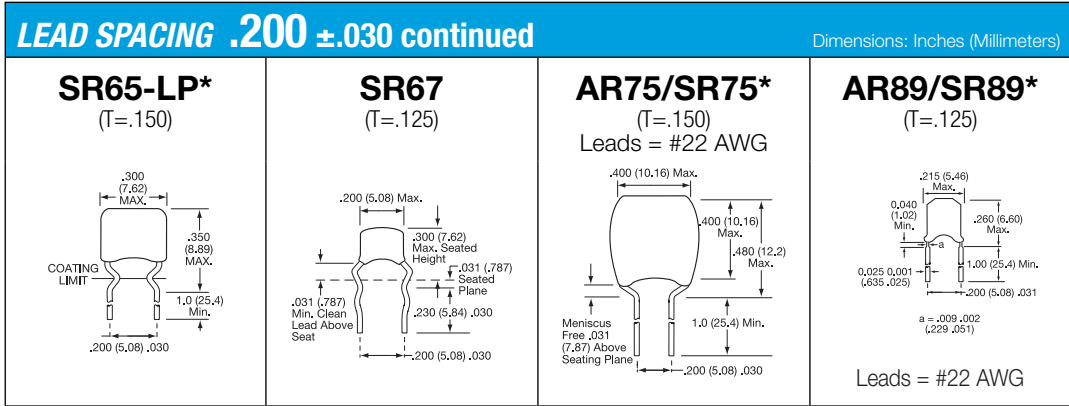
| LEAD SPACING .100 ±.030 | | | | Dimensions: Inches (Millimeters) | | | |
|---------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|--|--|
| <p>AR07/SR07* (T=.100)</p> | <p>AR14/SR14 (T=.100)</p> | <p>AR15/SR15* (T=.100)</p> | <p>AR20/SR20* (T=.125)</p> | <p>AR29/SR29* (T=.125)</p> | <p>AR62/SR62* (T=.125)</p> <p>Leads = #22 AWG</p> | <p>SR62-LP* (T=.100)</p> <p>Leads = #22 AWG</p> | |

| LEAD SPACING .200 ±.030 | | | | | Dimensions: Inches (Millimeters) | | | | | | | | | |
|---------------------------------------|----------------------------------|---------------------------------------|-------------------------------------|----------------------------------|---------------------------------------|-------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------|----------------------------------|---|--|---------------------------------------|
| <p>AR12/SR12* (T=.100)</p> | <p>SR13* (T=.125)</p> | <p>AR21/SR21* (T=.125)</p> | <p>SR21-85* (T=.125)</p> | <p>SR28* (T=.125)</p> | <p>AR30/SR30* (T=.150)</p> | <p>SR30-LP* (T=.150)</p> | <p>AR32/SR32* (T=.150)</p> | <p>AR40/SR40* (T=.150)</p> | <p>AR59/SR59* (T=.125)</p> | <p>SR61 (T=.150)</p> | <p>SR63* (T=.150)</p> | <p>SR64* (T=.150)</p> <p>Leads = #22 AWG</p> | <p>SR64-LP* (T=.150)</p> <p>Leads = #22 AWG</p> | <p>AR65/SR65* (T=.150)</p> |

*SL style available in all SR configurations.

RADIAL LEADS

SkyCap® Configurations by Lead Spacing



- NOTES:**
1. All leads are #24 AWG unless otherwise noted.
 2. Available in tape and reel packaging(*).
 3. Other styles are also available, contact factory.
 4. (T = XXX) under type designation is maximum thickness in inches.

*SL style available in all SR configurations.

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