

GENERAL INFORMATION

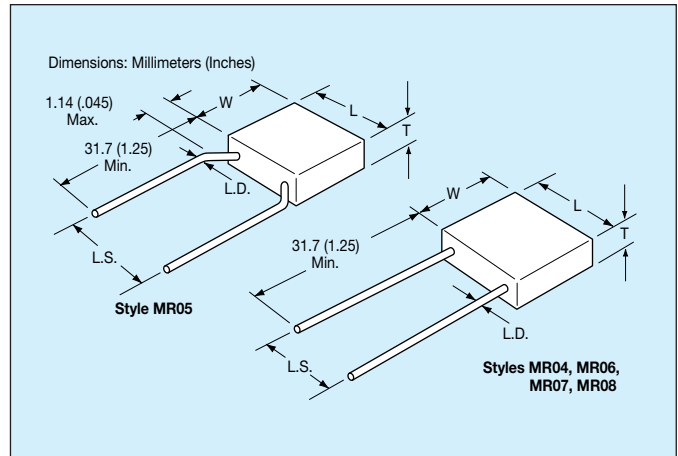
AVX MR Series

Molded Radial Ledged MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U
50, 100, 200 Volts

Case Material: Molded Epoxy

Lead Material: Solderable



HOW TO ORDER

| | | | | | | |
|--------------------------------------|---------------------------------|-------------------------------------|---|--|---|--|
| MR05 | 1 | A | 561 | J | A | A |
| AVX Style | Voltage | Dielectric | Capacitance | Capacitance Tolerance | Failure Rate | Leads |
| MR04 MR05 MR06 MR07 MR08 | 5 = 50V 1 = 100V 2 = 200V | A = C0G (NP0) C = X7R E = Z5U | First two digits are the significant figures of capacitance. Third digit indicates the additional number of zeros. For example, order 100,000 pF as 104. (For values below 10pF use "R" in place of decimal point, e.g., 1R4 = 1.4pF) | C0G (NP0): D = ±5pF (>10pF only) F = ±1% (>50pF only) G = ±2% (>25pF only) J = ±5% K = ±10% | X7R: J = ±5% K = ±10% M = ±20% | A = Not Applicable T = CECC |
| | | | | Z5U: M = ±20% Z = +80% -20% | | A = Standard Solderable (SnPb) T* = Trimmed Leads .230" ± .030" |

* Trimmed lead length for the MR05 style will be measured from the bend in the lead (seating plane).

MARKING

Marking is as size permits.
(For code identification, see HOW TO ORDER section.)

- AVX
- Capacitance Tolerance
- Voltage Rating
- Temperature Coefficient
- Date Code
- Lot Code

PACKAGING REQUIREMENTS

Bulk Packaging: 1000 pcs. per sealed package except MR07/MR08 (300 pcs.).

Tape and Reel: Available on MR04, MR05, and MR06 only (2500 pcs./reel).

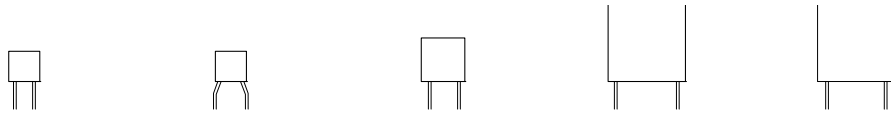
Ammo Packaging: Available on special request.

Radial Leads/Ceralam®



COG (NP0)

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

| AVX Style | | MR04 | | | MR05 | | | MR06 | | | MR07 | | | MR08 | | |
|--------------------|---|--------------|-----|----|--------------|-----|----|--------------|-----|----|---------------|-----|----|---------------|-----|----|
| Length* | | 4.83 (.190") | | | 4.83 (.190") | | | 7.36 (.290") | | | 12.44 (.490") | | | 12.44 (.490") | | |
| Width* | | 4.83 (.190") | | | 4.83 (.190") | | | 7.36 (.290") | | | 12.44 (.490") | | | 12.44 (.490") | | |
| Thickness* | | 2.28 (.090") | | | 2.28 (.090") | | | 2.28 (.090") | | | 3.55 (.140") | | | 6.09 (.240") | | |
| Lead Spacing* | | 2.54 (.100") | | | 5.08 (.200") | | | 5.08 (.200") | | | 10.16 (.400") | | | 10.16 (.400") | | |
| Lead Diameter* | | .635 (.025") | | | .635 (.025") | | | .635 (.025") | | | .635 (.025") | | | .635 (.025") | | |
| Cap. in pF | Typical AVX Part Nos. | WVDC | | | WVDC | | | WVDC | | | WVDC | | | WVDC | | |
| | | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 |
| 1.0 to 9.1 | MR.....5A1R0DAA MR.....5A9R1DAA | | | | | | | | | | | | | | | |
| 10 to 15 | MR.....5A100KAA MR.....5A120KAA MR.....5A150KAA | | | | | | | | | | | | | | | |
| 18 to 27 | MR.....5A180KAA MR.....5A220KAA MR.....5A270KAA | | | | | | | | | | | | | | | |
| 33 to 47 | MR.....5A330KAA MR.....5A390KAA MR.....5A470KAA | | | | | | | | | | | | | | | |
| 56 to 82 | MR.....5A560KAA MR.....5A680KAA MR.....5A820KAA | | | | | | | | | | | | | | | |
| 100 to 150 | MR.....5A101KAA MR.....5A121KAA MR.....5A151KAA | | | | | | | | | | | | | | | |
| 180 to 270 | MR.....5A181KAA MR.....5A221KAA MR.....5A271KAA | | | | | | | | | | | | | | | |
| 330 to 470 | MR.....5A331KAA MR.....5A391KAA MR.....5A471KAA | | | | | | | | | | | | | | | |
| 560 to 820 | MR.....5A561KAA MR.....5A681KAA MR.....5A821KAA | | | | | | | | | | | | | | | |
| 1000 to 1500 | MR.....5A102KAA MR.....5A122KAA MR.....5A152KAA | | | | | | | | | | | | | | | |
| 1800 to 2700 | MR.....5A182KAA MR.....5A222KAA MR.....5A272KAA | | | | | | | | | | | | | | | |
| 3300 to 4700 | MR.....5A332KAA MR.....5A392KAA MR.....5A472KAA | | | | | | | | | | | | | | | |
| 5600 to 8200 | MR.....5A562KAA MR.....5A682KAA MR.....5A822KAA | | | | | | | | | | | | | | | |
| 10,000 to 15,000 | MR.....5A103KAA MR.....5A123KAA MR.....5A153KAA | | | | | | | | | | | | | | | |
| 18,000 to 27,000 | MR.....5A183KAA MR.....5A223KAA MR.....5A273KAA | | | | | | | | | | | | | | | |
| 33,000 to 47,000 | MR.....5A333KAA MR.....5A393KAA MR.....5A473KAA | | | | | | | | | | | | | | | |
| 56,000 to 82,000 | MR.....5A563KAA MR.....5A683KAA MR.....5A823KAA | | | | | | | | | | | | | | | |
| 100,000 to 150,000 | MR.....5A104KAA MR.....5A124KAA MR.....5A154KAA | | | | | | | | | | | | | | | |

For trimmed leads see "How To Order".
For other tolerances see "How To Order".
For other voltages see "How To Order".

= Industry preferred values

*Length, width and thickness dimensions are ±.254 mm (±.010"). Lead diameter is ±.05 mm (±.002"). Lead spacing is ±.381 mm (±.015").



Radial Leads/Ceralam®



X7R

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

| AVX Style | | MR04 | MR05 | MR06 | MR07 | MR08 | | | | | | | | | | |
|----------------|-----------------------|--------------|--------------|---------------|---------------|------|----|------|-----|----|------|-----|----|------|-----|----|
| Length* | 4.83 (.190") | 4.83 (.190") | 7.36 (.290") | 12.44 (.490") | 12.44 (.490") | | | | | | | | | | | |
| Width* | 4.83 (.190") | 4.83 (.190") | 7.36 (.290") | 12.44 (.490") | 12.44 (.490") | | | | | | | | | | | |
| Thickness* | 2.28 (.090") | 2.28 (.090") | 2.28 (.090") | 3.55 (.140") | 6.09 (.240") | | | | | | | | | | | |
| Lead Spacing* | 2.54 (.100") | 5.08 (.200") | 5.08 (.200") | 10.16 (.400") | 10.16 (.400") | | | | | | | | | | | |
| Lead Diameter* | .635 (.025") | .635 (.025") | .635 (.025") | .635 (.025") | .635 (.025") | | | | | | | | | | | |
| Cap. in pF | Typical AVX Part Nos. | WVDC | | | WVDC | | | WVDC | | | WVDC | | | WVDC | | |
| | | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 | 200 | 100 | 50 |
| 100 | MR.....5C101KAA | | | | | | | | | | | | | | | |
| 120 | MR.....5C121KAA | | | | | | | | | | | | | | | |
| 150 | MR.....5C151KAA | | | | | | | | | | | | | | | |
| 180 | MR.....5C181KAA | | | | | | | | | | | | | | | |
| 220 | MR.....5C221KAA | | | | | | | | | | | | | | | |
| 270 | MR.....5C271KAA | | | | | | | | | | | | | | | |
| 330 | MR.....5C331KAA | | | | | | | | | | | | | | | |
| 390 | MR.....5C391KAA | | | | | | | | | | | | | | | |
| 470 | MR.....5C471KAA | | | | | | | | | | | | | | | |
| 560 | MR.....5C561KAA | | | | | | | | | | | | | | | |
| 680 | MR.....5C681KAA | | | | | | | | | | | | | | | |
| 820 | MR.....5C821KAA | | | | | | | | | | | | | | | |
| 1000 | MR.....5C102KAA | | | | | | | | | | | | | | | |
| 1200 | MR.....5C122KAA | | | | | | | | | | | | | | | |
| 1500 | MR.....5C152KAA | | | | | | | | | | | | | | | |
| 1800 | MR.....5C182KAA | | | | | | | | | | | | | | | |
| 2200 | MR.....5C222KAA | | | | | | | | | | | | | | | |
| 2700 | MR.....5C272KAA | | | | | | | | | | | | | | | |
| 3300 | MR.....5C332KAA | | | | | | | | | | | | | | | |
| 3900 | MR.....5C392KAA | | | | | | | | | | | | | | | |
| 4700 | MR.....5C472KAA | | | | | | | | | | | | | | | |
| 5600 | MR.....5C562KAA | | | | | | | | | | | | | | | |
| 6800 | MR.....5C682KAA | | | | | | | | | | | | | | | |
| 8200 | MR.....5C822KAA | | | | | | | | | | | | | | | |
| 10,000 | MR.....5C103KAA | | | | | | | | | | | | | | | |
| 12,000 | MR.....5C123KAA | | | | | | | | | | | | | | | |
| 15,000 | MR.....5C153KAA | | | | | | | | | | | | | | | |
| 18,000 | MR.....5C183KAA | | | | | | | | | | | | | | | |
| 22,000 | MR.....5C223KAA | | | | | | | | | | | | | | | |
| 27,000 | MR.....5C273KAA | | | | | | | | | | | | | | | |
| 33,000 | MR.....5C333KAA | | | | | | | | | | | | | | | |
| 39,000 | MR.....5C393KAA | | | | | | | | | | | | | | | |
| 47,000 | MR.....5C473KAA | | | | | | | | | | | | | | | |
| 56,000 | MR.....5C563KAA | | | | | | | | | | | | | | | |
| 68,000 | MR.....5C683KAA | | | | | | | | | | | | | | | |
| 82,000 | MR.....5C823KAA | | | | | | | | | | | | | | | |
| 100,000 | MR.....5C104KAA | | | | | | | | | | | | | | | |
| 120,000 | MR.....5C124KAA | | | | | | | | | | | | | | | |
| 150,000 | MR.....5C154KAA | | | | | | | | | | | | | | | |
| 180,000 | MR.....5C184KAA | | | | | | | | | | | | | | | |
| 220,000 | MR.....5C224KAA | | | | | | | | | | | | | | | |
| 270,000 | MR.....5C274KAA | | | | | | | | | | | | | | | |
| 330,000 | MR.....5C334KAA | | | | | | | | | | | | | | | |
| 390,000 | MR.....5C394KAA | | | | | | | | | | | | | | | |
| 470,000 | MR.....5C474KAA | | | | | | | | | | | | | | | |
| 560,000 | MR.....5C564KAA | | | | | | | | | | | | | | | |
| 680,000 | MR.....5C684KAA | | | | | | | | | | | | | | | |
| 820,000 | MR.....5C824KAA | | | | | | | | | | | | | | | |
| 1.0 µF | MR.....5C105KAA | | | | | | | | | | | | | | | |
| 1.2 µF | MR.....5C125KAA | | | | | | | | | | | | | | | |
| 1.5 µF | MR.....5C155KAA | | | | | | | | | | | | | | | |
| 1.8 µF | MR.....5C185KAA | | | | | | | | | | | | | | | |
| 2.0 µF | MR.....5C205KAA | | | | | | | | | | | | | | | |
| 2.2 µF | MR.....5C225KAA | | | | | | | | | | | | | | | |
| 2.7 µF | MR.....5C275KAA | | | | | | | | | | | | | | | |
| 3.3 µF | MR.....5C335KAA | | | | | | | | | | | | | | | |
| 3.9 µF | MR.....5C395KAA | | | | | | | | | | | | | | | |
| 4.7 µF | MR.....5C475KAA | | | | | | | | | | | | | | | |

For trimmed leads see "How To Order".
 For other tolerances see "How To Order".
 For other voltages see "How To Order".

= Industry preferred values

*Length, width and thickness dimensions are ±.254 mm (±.010"). Lead diameter is ±.05 mm (±.002"). Lead spacing is ±.381 mm (±.015").



Radial Leads/Ceralam®



Z5U

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

| AVX Style | | MR04 | | MR05 | | MR06 | | MR07 | | MR08 | |
|----------------|-----------------------|-----------------|----|-----------------|----|-----------------|----|------------------|----|------------------|----|
| Length* | | 4.83 (.190") | | 4.83 (.190") | | 7.36 (.290") | | 12.44 (.490") | | 12.44 (.490") | |
| Width* | | 4.83 (.190") | | 4.83 (.190") | | 7.36 (.290") | | 12.44 (.490") | | 12.44 (.490") | |
| Thickness* | | 2.28 (.090") | | 2.28 (.090") | | 2.28 (.090") | | 3.55 (.140") | | 6.09 (.240") | |
| Lead* Spacing | | 2.54 (.100") | | 5.08 (.200") | | 5.08 (.200") | | 10.16 (.400") | | 10.16 (.400") | |
| Lead* Diameter | | .635 (.025") | | .635 (.025") | | .635 (.025") | | .635 (.025") | | .635 (.025") | |
| Cap. in pF | Typical AVX Part Nos. | WVDC | | WVDC | | WVDC | | WVDC | | WVDC | |
| | | 100 | 50 | 100 | 50 | 100 | 50 | 100 | 50 | 100 | 50 |
| 10,000 | MR.....5E103ZAA | | | | | | | | | | |
| 12,000 | MR.....5E123ZAA | | | | | | | | | | |
| 15,000 | MR.....5E153ZAA | | | | | | | | | | |
| 18,000 | MR.....5E183ZAA | | | | | | | | | | |
| 22,000 | MR.....5E223ZAA | | | | | | | | | | |
| 27,000 | MR.....5E273ZAA | | | | | | | | | | |
| 33,000 | MR.....5E333ZAA | | | | | | | | | | |
| 39,000 | MR.....5E393ZAA | | | | | | | | | | |
| 47,000 | MR.....5E473ZAA | | | | | | | | | | |
| 56,000 | MR.....5E563ZAA | | | | | | | | | | |
| 68,000 | MR.....5E683ZAA | | | | | | | | | | |
| 82,000 | MR.....5E823ZAA | | | | | | | | | | |
| 100,000 | MR.....5E104ZAA | | | | | | | | | | |
| 120,000 | MR.....5E124ZAA | | | | | | | | | | |
| 150,000 | MR.....5E154ZAA | | | | | | | | | | |
| 180,000 | MR.....5E184ZAA | | | | | | | | | | |
| 220,000 | MR.....5E224ZAA | | | | | | | | | | |
| 270,000 | MR.....5E274ZAA | | | | | | | | | | |
| 330,000 | MR.....5E334ZAA | | | | | | | | | | |
| 390,000 | MR.....5E394ZAA | | | | | | | | | | |
| 470,000 | MR.....5E474ZAA | | | | | | | | | | |
| 560,000 | MR.....5E564ZAA | | | | | | | | | | |
| 680,000 | MR.....5E684ZAA | | | | | | | | | | |
| 820,000 | MR.....5E824ZAA | | | | | | | | | | |
| 1.0 µF | MR.....5E105ZAA | | | | | | | | | | |
| 1.2 µF | MR.....5E125ZAA | | | | | | | | | | |
| 1.5 µF | MR.....5E155ZAA | | | | | | | | | | |
| 1.8 µF | MR.....5E185ZAA | | | | | | | | | | |
| 2.2 µF | MR.....5E225ZAA | | | | | | | | | | |
| 2.7 µF | MR.....5E275ZAA | | | | | | | | | | |
| 3.3 µF | MR.....5E335ZAA | | | | | | | | | | |
| 3.9 µF | MR.....5E395ZAA | | | | | | | | | | |
| 4.7 µF | MR.....5E475ZAA | | | | | | | | | | |
| 5.6 µF | MR.....5E565ZAA | | | | | | | | | | |
| 6.8 µF | MR.....5E685ZAA | | | | | | | | | | |
| 8.2 µF | MR.....5E825ZAA | | | | | | | | | | |
| 10.0 µF | MR.....5E106ZAA | | | | | | | | | | |

For trimmed leads see "How To Order".
 For other tolerances see "How To Order".
 For other voltages see "How To Order".

= Industry preferred values

*Length, width and thickness dimensions are ±.254 mm (±.010"). Lead diameter is ±.05 mm (±.002"). Lead spacing is ±.381 mm (±.015).



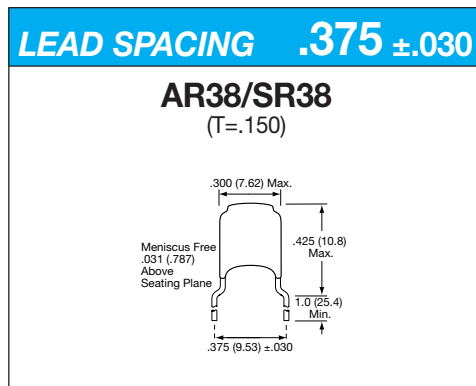
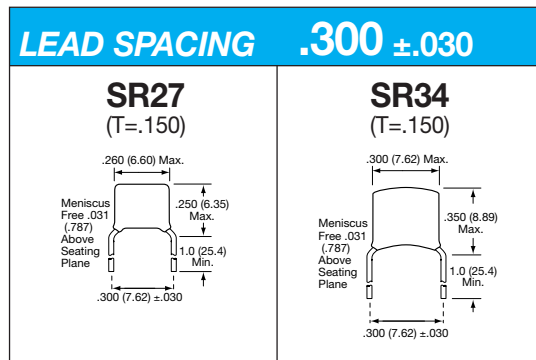
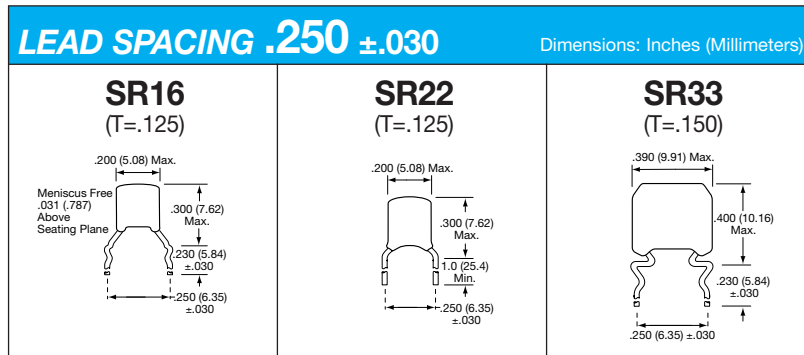
Configurations by Lead Spacing

| 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>SR62-LP* (T=.100)</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>SR64-LP* (T=.150)</p> | <p>AR65/SR65* (T=.150)</p> |

*SL style available in all SR configurations.

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.

Radial Leads/Packaging

Tape and Reel



GENERAL INFORMATION

1. Standard reel diameter is 355 millimeters (14 inches) maximum.
2. Reeling standard (#1 or #2) should be specified when ordering.

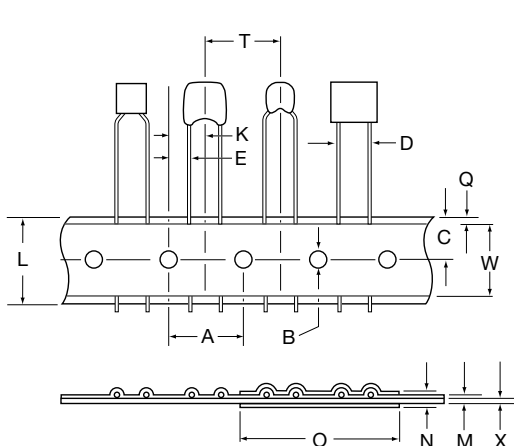
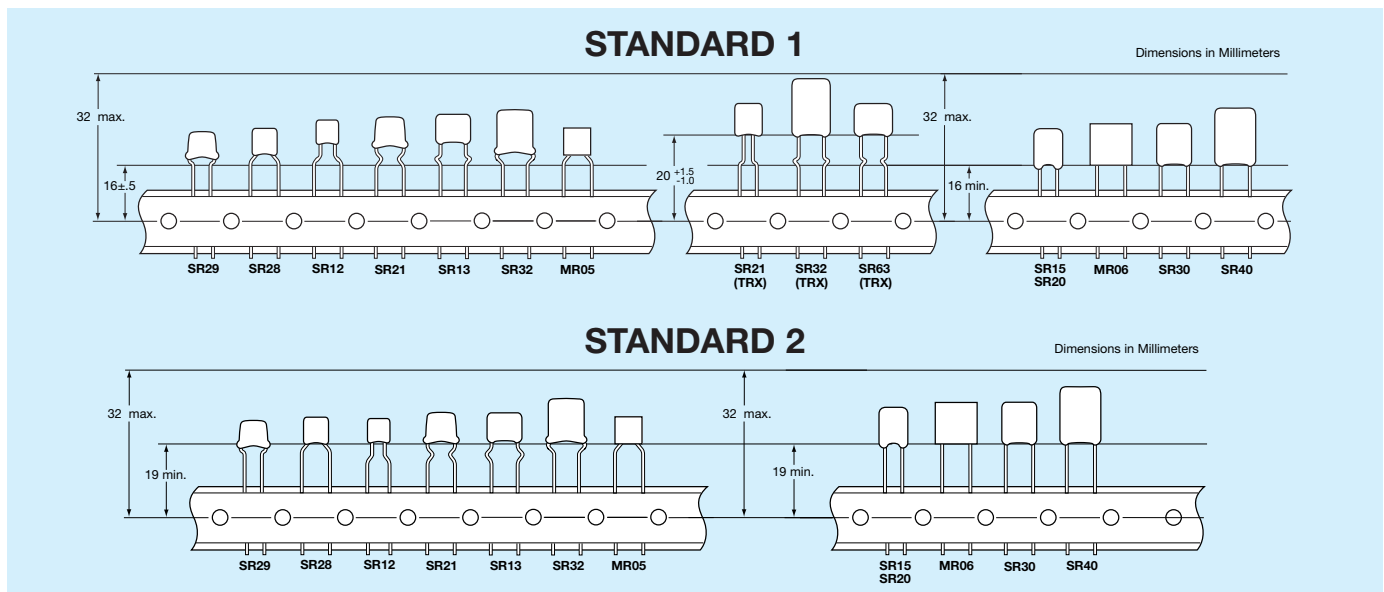
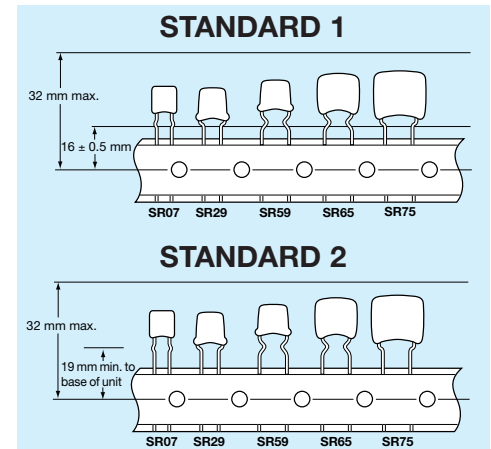
HOW TO ORDER

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

Examples:

SR215C104KARTR1
 SR305E105MARTR2
 SR215C103JARTRX

THE INSERTABLES

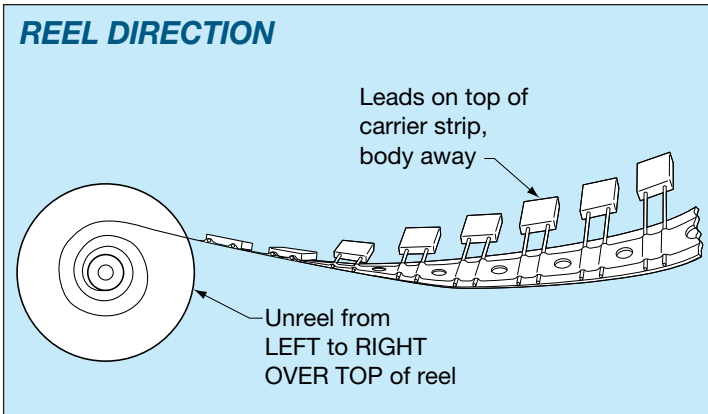


DESCRIPTION

DIMENSIONS (MM)

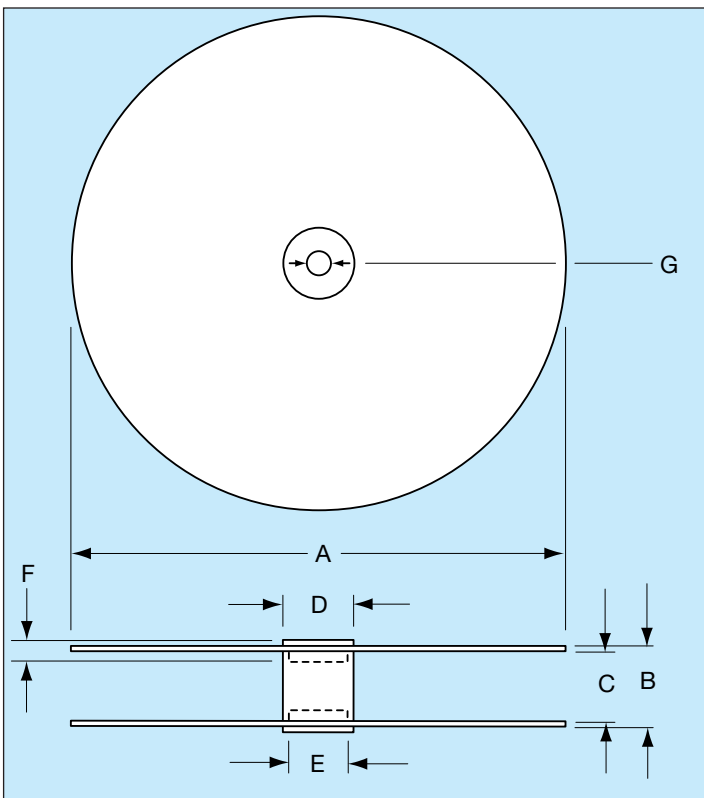
| | |
|--|--|
| A. Feed Hole Pitch | 12.70 ± .20 |
| B. Feed Hole Diameter | 3.99 ± .20 |
| C. Feed Hole Location | 9.02 ± .51 |
| D. Component Lead Spacing | 5.00 ^{+0.79} _{-.20} or 2.54 ^{+0.79} _{-.20} |
| E. Component Lead Location | 3.81 ± .51 or 5.00 ± .51 for 2.54 lead spacing 2.00 maximum |
| F. Component Lead Protrusion (edge of carrier to cut end of lead) | 2.00 maximum |
| K. Component Body Location | 6.35 ± .41 |
| L. Carrier Tape Width | 18.01 ^{+1.02} _{-.51} |
| M. Carrier Tape Assembly Thickness | .71 ± .20 |
| N. Carrier Tape Spliced Thickness | 1.42 maximum |
| O. Carrier Tape Spliced Length | 50.80 - 88.90 |
| Q. Adhesive Tape Border | 3.00 maximum |
| R. Component Bent Leads (either direction) | .79 maximum |
| S. Component Misalignment | .99 maximum |
| T. Component Pitch | 12.70 ± .99 |
| W. Adhesive Tape Width | 5.00 minimum |
| X. Carrier Tape Thickness | .51 ± .10 |
| Y. Cumulative Pitch over 20 Pitches | 254 ± 2.00 |





| QUANTITY PER REEL SR/AR | |
|--|------|
| PART | PCS |
| SR15, 07, 12 | 3500 |
| SR20, 21, 23, 28 13, 29, 59, 62, 89 | 3000 |
| SR30, 32, 40, 63, 64 65, 75 | 2000 |
| MR05, 06 | 2500 |

*SL style available in all SR configurations.



| DESCRIPTION | DIMENSIONS (MM) |
|--------------------------|-----------------|
| A – Reel Diameter | 304.80 - 355 |
| B – Reel Outside Width | 50.80 maximum |
| C – Reel Inside Width | 38.10 - 46.02 |
| D – Core Diameter (O.D.) | 102.01 maximum |
| E – Hub Recess Diameter | 86.36 maximum |
| F – Hub Recess Depth | 9.50 minimum |
| G – Arbor Hole Diameter | 25.40 - 30.48 |

| CONVERSION TABLE | | | | | | | | | |
|------------------|------|------|------|------|------|-------|-------|--------|--------|
| MM | IN | MM | IN | MM | IN | MM | IN | MM | IN |
| .10 | .004 | 1.52 | .060 | 5.00 | .197 | 9.91 | .390 | 32.00 | 1.260 |
| .20 | .007 | 2.00 | .079 | 5.08 | .200 | 10.03 | .395 | 38.10 | 1.500 |
| .38 | .015 | 2.54 | .100 | 6.22 | .245 | 10.16 | .400 | 46.02 | 1.812 |
| .41 | .016 | 3.00 | .118 | 6.35 | .250 | 11.68 | .460 | 50.80 | 2.000 |
| .51 | .020 | 3.18 | .125 | 6.60 | .260 | 12.50 | .492 | 86.36 | 3.400 |
| .71 | .028 | 3.48 | .137 | 6.99 | .275 | 12.70 | .500 | 88.90 | 3.500 |
| .79 | .031 | 3.81 | .150 | 7.62 | .300 | 16.00 | .630 | 102.01 | 4.016 |
| .99 | .039 | 3.99 | .157 | 8.89 | .350 | 18.01 | .709 | 254.00 | 10.000 |
| 1.02 | .040 | 4.45 | .175 | 9.02 | .355 | 25.40 | 1.000 | 304.80 | 12.000 |
| 1.42 | .056 | 4.98 | .196 | 9.50 | .374 | 30.48 | 1.200 | 355.00 | 14.000 |

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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