

July 2016

MLCC with Dipped Radial Lead

(Halogen-free, Automotive Grade)

FA Series

Type:

Lead pitch 5.0 mm FA28 [4.0x5.5mm] FA24 [4.5x5.5mm] FA26 [5.5x6.0mm] FA20 [5.5x7.0mm] FA22 [7.5x8.5mm]

Lead pitch 2.5 mm FA18 [4.0x5.5mm] FA14 [4.5x5.5mm] FA16 [5.5x6.0mm] FA11 [5.5x7.0mm]



REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

| | S |
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O not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).

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O Before soldering, be sure to preheat components.

The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.

- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
 If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- O Do not use for a purpose outside of the contents regulated in the delivery specifications.
- O The products listed on this catalog are intended for use in automotive electronic equipment under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for automotive-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

MLCC with Dipped Radial Lead Halogen-free, Automotive Grade

Product compatible with RoHS directive Halogen-free

⊗TDK

Overview of the FA Series

FEATURES

- \bigcirc A complete lineup with a rated voltage of 25V to 630V.
- \bigcirc Compatible with a wide capacitance range of 1pF to 22 μ F.
- The FA series for automotive use is AEC-Q200 compliant.

- O Noise reduction measures for various motors for automotive use
- \bigcirc Resonant circuits in areas such as keyless entry systems
- \bigcirc Bypass capacitors such as for switching power sources, smoothing capacitors, etc.
- Snubber circuits
- PFC input filters

PART NUMBER CONSTRUCTION

| FA | 2 8 | | 8 C0G 1H 010 | | 10 | С | | | | | | | | | | |
|----------------|--------------------|-----|-----------------------------|-------------|-----|---|----|--------------------|-----|---------|---|-----------------------|------------|------------|---|---------------------|
| Series name | Lead pitch (mm) | | LxWxT Dimensions (mm) | | ter | apacitance Rated emperature voltage aracteristics (V) | | voltage capacitanc | | citance | | bacitance lerance* | Inte co | rnal de | | ackaging Style** |
| | 1 | 2.5 | 8 | 4.0x5.5x2.5 | C0G | 0±30ppm/°C | 1E | 25 | 010 | 1 | С | ±0.25pF | | | 0 | Bulk |
| | 2 | 5.0 | 4 | 4.5x5.5x3.0 | X7R | ±15% | 1H | 50 | 100 | 10 | D | ±0.5pF | | | 6 | Taping |
| | | | 6 | 5.5x6.0x3.5 | X7S | ±22% | 2A | 100 | 101 | 100 | J | ±5% | | | | |
| | | | 0 | 5.5x7.0x4.0 | X7T | +22, -33% | 2E | 250 | 102 | 1,000 | Κ | ±10% | | | | |
| | | | 1 | 5.5x7.0x4.0 | | | 2W | 450 | | | Μ | ±20% | | | | |
| | | | 2 | 7.5x8.5x4.5 | | | 2J | 630 | | | | | | | | |

* Applicable capacitance range: Max. 10 pF for C and D, over 10 pF for J, K, and M.

** Applied to the TDK's standard specification products.

OPERATING TEMPERATURE RANGE

| Canacitanaa tamparatura | Temperature range* | | | | |
|--|-----------------------|-----------------------|--|--|--|
| Capacitance temperature characteristics | Operating temperature | Storage temperature** | | | |
| characteristics | (°C) | (°C) | | | |
| C0G, X7R, X7S, X7T | -55 to +125 | -55 to +125 | | | |

* The maximum operating temperature includes capacitor self-generated heat of up to 20°C.

** The storage temperature range applies to after MLCC is mounted on board.

OROHS Directive Compliant Product: See the following for more details.https://product.tdk.com/info/en/environment/rohs/index.html

O Halogen-free: Indicates that CI content is less than 900ppm, Br content is less than 900ppm, and that the total CI and Br content is less than 1500ppm.

Overview of the FA Series

PACKAGE QUANTITY

| Type | Package quantity | | | | | |
|------|-----------------------|---------------------|--|--|--|--|
| туре | Taping (pieces / box) | Bulk (pieces / bag) | | | | |
| FA28 | 2000 | 500 | | | | |
| FA24 | 2000 | 500 | | | | |
| FA26 | 2000 | 500 | | | | |
| FA20 | 1500 | 500 | | | | |
| FA22 | 1000 | 500 | | | | |
| FA18 | 2000 | 500 | | | | |
| FA14 | 2000 | 500 | | | | |
| FA16 | 2000 | 500 | | | | |
| FA11 | 1500 | 500 | | | | |

CAPACITORS

Overview of the FA Series

RECOMMENDED FLOW PROFILE



t: Time

| Preheating | | Peak | | Natural cooling |
|------------|-----------|-------|------------|-----------------|
| Temp. | Time | Temp. | Time | Time |
| T1 | t1 | T2 | t2 | t3 |
| 110°C min. | Over 60s. | 260°C | Within 5s. | Over 60s. |

A Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

FA28 Type

SHAPE & DIMENSIONS





⊗TDK

FA28 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|----------------|--------------------------|---------------------|
| C0G | 1.0pF | ±0.25pF | 50 | FA28C0G1H010CNU0 ** |
| C0G | 1.5pF | ±0.25pF | 50 | FA28C0G1H1R5CNU0 |
| C0G | 2.2pF | ±0.25pF | 50 | FA28C0G1H2R2CNU0 |
| C0G | 3.3pF | ±0.25pF | 50 | FA28C0G1H3R3CNU0 |
| C0G | 4.7pF | ±0.25pF | 50 | FA28C0G1H4R7CNU0 |
| C0G | 6.8pF | ±0.5pF | 50 | FA28C0G1H6R8DNU0 |
| C0G | 10pF | ±0.5pF | 50 | FA28C0G1H100DNU0 |
| C0G | 15pF | ±5% | 50 | FA28C0G1H150JNU0 |
| C0G | 22pF | ±5% | 50 | FA28C0G1H220JNU0 |
| C0G | 33pF | ±5% | 50 | FA28C0G1H330JNU0 |
| C0G | 47pF | ±5% | 50 | FA28C0G1H470JNU0 |
| C0G | 68pF | ±5% | 50 | FA28C0G1H680JNU0 |
| C0G | 100pF | ±5% | 50 | FA28C0G1H101JNU0 |
| C0G | 120pF | ±5% | 50 | FA28C0G1H121JNU0 |
| COG | 150pF | ±5% | 50 | FA28C0G1H151JNU0 |
| COG | 180pF | ±5% | 50 | FA28C0G1H181JNU0 |
| COG | 220pF | ±5% | 50 | FA28C0G1H221JNU0 |
| COG | 270pF | ±5% | 50 | FA28C0G1H271JNU0 |
| COG | 330pF | ±5% | 50 | FA28C0G1H331JNU0 |
| COG | 390pF | ±5% | 50 | FA28C0G1H391JNU0 |
| COG | 470pF | ±5% | 50 | FA28C0G1H471JNU0 |
| COG | 560pF | ±5% | 50 | FA28C0G1H561JNU0 |
| COG | 680pF | ±5% | 50 | FA28C0G1H681JNU0 |
| COG | 820pF | ±5% | 50 | FA28C0G1H821JNU0 |
| COG | 1nF | ±5% | 50 | FA28C0G1H102JNU0 |
| COG | 1.2nF | ±5% | 50 | FA28C0G1H102JN00 |
| C0G | 1.5nF | ±5% | 50 | FA28C0G1H122JN00 |
| COG | 1.8nF | ±5% | 50 | FA28C0G1H182JNU0 |
| COG | 2.2nF | ±5% | 50 | FA28C0G1H222JNU0 |
| COG | 2.7nF | ±5% | 50 | FA28C0G1H272JNU0 |
| COG | 3.3nF | ±5% | 50 | FA28C0G1H372JN00 |
| COG | 3.9nF | ±5% | 50 | FA28C0G1H392JNU0 |
| COG | 4.7nF | ±5% | 50 | |
| COG | 5.6nF | | 50 | |
| COG | 6.8nF | ±5% | 50 | FA28C0G1H562JNU0 |
| COG | 8.2nF | ±5% | 50 | FA28C0G1H682JNU0 |
| COG | 10nF | ±5% | 50 | FA28C0G1H822JNU0 |
| COG | 1.0pF | ±5% ±0.25pF | 100 | FA28C0G1H103JNU0 |
| COG | | ±0.25pF | 100 | FA28C0G2A010CNU0 |
| COG | 1.5pF | | 100 | FA28C0G2A1R5CNU0 |
| COG | 2.2pF | ±0.25pF | 100 | FA28C0G2A2R2CNU0 |
| | 3.3pF | ±0.25pF | | FA28C0G2A3R3CNU0 |
| COG | 4.7pF | ±0.25pF | 100 | FA28C0G2A4R7CNU0 |
| COG | 6.8pF | ±0.5pF | 100 | FA28C0G2A6R8DNU0 |
| COG | 10pF | ±0.5pF | 100 | FA28C0G2A100DNU0 |
| COG | 15pF | ±5% | 100 | FA28C0G2A150JNU0 |
| COG | 22pF | ±5% | 100 | FA28C0G2A220JNU0 |
| COG | 33pF | ±5% | 100 | FA28C0G2A330JNU0 |
| COG | 47pF | ±5% | 100 | FA28C0G2A470JNU0 |
| COG | 68pF | ±5% | 100 | FA28C0G2A680JNU0 |
| COG | 100pF | ±5% | 100 | FA28C0G2A101JNU0 |

 * The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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⊗TDK

FA28 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| C0G | 120pF | ±5% | 100 | FA28C0G2A121JNU0 ** |
| C0G | 150pF | ±5% | 100 | FA28C0G2A151JNU0 |
| C0G | 180pF | ±5% | 100 | FA28C0G2A181JNU0 |
| C0G | 220pF | ±5% | 100 | FA28C0G2A221JNU0 |
| C0G | 270pF | ±5% | 100 | FA28C0G2A271JNU0 |
| C0G | 330pF | ±5% | 100 | FA28C0G2A331JNU0 |
| C0G | 390pF | ±5% | 100 | FA28C0G2A391JNU0 |
| C0G | 470pF | ±5% | 100 | FA28C0G2A471JNU0 |
| C0G | 560pF | ±5% | 100 | FA28C0G2A561JNU0 |
| C0G | 680pF | ±5% | 100 | FA28C0G2A681JNU0 |
| C0G | 820pF | ±5% | 100 | FA28C0G2A821JNU0 |
| C0G | 1nF | ±5% | 100 | FA28C0G2A102JNU0 |
| C0G | 1.2nF | ±5% | 100 | FA28C0G2A122JNU0 |
| C0G | 1.5nF | ±5% | 100 | FA28C0G2A152JNU0 |
| C0G | 1.8nF | ±5% | 100 | FA28C0G2A182JNU0 |
| C0G | 2.2nF | ±5% | 100 | FA28C0G2A222JNU0 |
| C0G | 2.7nF | ±5% | 100 | FA28C0G2A272JNU0 |
| C0G | 3.3nF | ±5% | 100 | FA28C0G2A332JNU0 |
| C0G | 3.9nF | ±5% | 100 | FA28C0G2A392JRU0 |
| C0G | 4.7nF | ±5% | 100 | FA28C0G2A472JRU0 |
| C0G | 5.6nF | ±5% | 100 | FA28C0G2A562JRU0 |
| C0G | 6.8nF | ±5% | 100 | FA28C0G2A682JRU0 |
| C0G | 8.2nF | ±5% | 100 | FA28C0G2A822JRU0 |
| C0G | 10nF | ±5% | 100 | FA28C0G2A103JRU0 |
| C0G | 100pF | ±5% | 250 | FA28C0G2E101JNU0 |
| C0G | 120pF | ±5% | 250 | FA28C0G2E121JNU0 |
| C0G | 150pF | ±5% | 250 | FA28C0G2E151JNU0 |
| C0G | 180pF | ±5% | 250 | FA28C0G2E181JNU0 |
| C0G | 220pF | ±5% | 250 | FA28C0G2E221JNU0 |
| C0G | 270pF | ±5% | 250 | FA28C0G2E271JNU0 |
| C0G | 330pF | ±5% | 250 | FA28C0G2E331JNU0 |
| C0G | 390pF | ±5% | 250 | FA28C0G2E391JNU0 |
| C0G | 470pF | ±5% | 250 | FA28C0G2E471JNU0 |
| C0G | 560pF | ±5% | 250 | FA28C0G2E561JNU0 |
| C0G | 680pF | ±5% | 250 | FA28C0G2E681JNU0 |
| C0G | 820pF | ±5% | 250 | FA28C0G2E821JNU0 |
| C0G | 1nF | ±5% | 250 | FA28C0G2E102JNU0 |
| C0G | 1.2nF | ±5% | 250 | FA28C0G2E122JNU0 |
| C0G | 1.5nF | ±5% | 250 | FA28C0G2E152JNU0 |
| C0G | 1.8nF | ±5% | 250 | FA28C0G2E182JNU0 |
| C0G | 2.2nF | ±5% | 250 | FA28C0G2E222JNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

FA28 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|------------------|
| X7R | 150nF | ±10% | 25 | FA28X7R1E154KNU0 |
| X7R | 680nF | ±10% | 25 | FA28X7R1E684KRU0 |
| X7R | 1uF | ±10% | 25 | FA28X7R1E105KRU0 |
| X7R | 220pF | ±10% | 50 | FA28X7R1H221KNU0 |
| X7R | 330pF | ±10% | 50 | FA28X7R1H331KNU0 |
| X7R | 470pF | ±10% | 50 | FA28X7R1H471KNU0 |
| X7R | 680pF | ±10% | 50 | FA28X7R1H681KNU0 |
| X7R | 1nF | ±10% | 50 | FA28X7R1H102KNU0 |
| X7R | 1.5nF | ±10% | 50 | FA28X7R1H152KNU0 |
| X7R | 2.2nF | ±10% | 50 | FA28X7R1H222KNU0 |
| X7R | 3.3nF | ±10% | 50 | FA28X7R1H332KNU0 |
| X7R | 4.7nF | ±10% | 50 | FA28X7R1H472KNU0 |
| X7R | 6.8nF | ±10% | 50 | FA28X7R1H682KNU0 |
| X7R | 10nF | ±10% | 50 | FA28X7R1H103KNU0 |
| X7R | 15nF | ±10% | 50 | FA28X7R1H153KNU0 |
| X7R | 22nF | ±10% | 50 | FA28X7R1H223KNU0 |
| X7R | 33nF | ±10% | 50 | FA28X7R1H333KNU0 |
| X7R | 47nF | ±10% | 50 | FA28X7R1H473KNU0 |
| X7R | 68nF | ±10% | 50 | FA28X7R1H683KNU0 |
| X7R | 100nF | ±10% | 50 | FA28X7R1H104KNU0 |
| X7R | 150nF | ±10% | 50 | FA28X7R1H154KRU0 |
| X7R | 220nF | ±10% | 50 | FA28X7R1H224KRU0 |
| X7R | 330nF | ±10% | 50 | FA28X7R1H334KRU0 |
| X7R | 470nF | ±10% | 50 | FA28X7R1H474KRU0 |
| X7R | 220pF | ±10% | 100 | FA28X7R2A221KNU0 |
| X7R | 330pF | ±10% | 100 | FA28X7R2A331KNU0 |
| X7R | 470pF | ±10% | 100 | FA28X7R2A471KNU0 |
| X7R | 680pF | ±10% | 100 | FA28X7R2A681KNU0 |
| X7R | 1nF | ±10% | 100 | FA28X7R2A102KNU0 |
| X7R | 1.5nF | ±10% | 100 | FA28X7R2A152KNU0 |
| X7R | 2.2nF | ±10% | 100 | FA28X7R2A222KNU0 |
| X7R | 3.3nF | ±10% | 100 | FA28X7R2A332KNU0 |
| X7R | 4.7nF | ±10% | 100 | FA28X7R2A472KNU0 |
| X7R | 6.8nF | ±10% | 100 | FA28X7R2A682KNU0 |
| X7R | 10nF | ±10% | 100 | FA28X7R2A103KNU0 |
| X7R | 15nF | ±10% | 100 | FA28X7R2A153KNU0 |
| X7R | 22nF | ±10% | 100 | FA28X7R2A223KNU0 |
| X7S | 33nF | ±10% | 100 | FA28X7S2A333KRU0 |
| X7S | 47nF | ±10% | 100 | FA28X7S2A473KRU0 |
| X7S | 68nF | ±10% | 100 | FA28X7S2A683KRU0 |
| X7S | 100nF | ±10% | 100 | FA28X7S2A104KRU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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⊗TDK

CAPACITORS

FA24 Type

SHAPE & DIMENSIONS





FA24 Type

ELECTRICAL CHARACTERISTICS

□CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|---------------------|-------------|--------------------------|---------------------|
| C0G | 15nF | ±5% | 50 | FA24C0G1H153JNU0 ** |
| C0G | 22nF | ±5% | 50 | FA24C0G1H223JNU0 |
| COG | 33nF | ±5% | 50 | FA24C0G1H333JNU0 |
| C0G | 3.9nF | ±5% | 100 | FA24C0G2A392JNU0 |
| COG | 4.7nF | ±5% | 100 | FA24C0G2A472JNU0 |
| COG | 5.6nF | ±5% | 100 | FA24C0G2A562JNU0 |
| COG | 6.8nF | ±5% | 100 | FA24C0G2A682JNU0 |
| C0G | 8.2nF | ±5% | 100 | FA24C0G2A822JNU0 |
| COG | 10nF | ± 5% | 100 | FA24C0G2A103JNU0 |
| C0G | 15nF | ±5% | 100 | FA24C0G2A153JRU0 |
| COG | 22nF | ±5% | 100 | FA24C0G2A223JRU0 |
| COG | 33nF | ± 5% | 100 | FA24C0G2A333JRU0 |
| COG | 2.7nF | ±5% | 250 | FA24C0G2E272JNU0 |
| C0G | 3.3nF | ± 5% | 250 | FA24C0G2E332JNU0 |
| COG | 3.9nF | ± 5% | 250 | FA24C0G2E392JNU0 |
| C0G | 4.7nF | ±5% | 250 | FA24C0G2E472JNU0 |
| COG | 5.6nF | ±5% | 250 | FA24C0G2E562JNU0 |
| C0G | 6.8nF | ±5% | 250 | FA24C0G2E682JNU0 |
| COG | 8.2nF | ±5% | 250 | FA24C0G2E822JNU0 |
| C0G | 10nF | ±5% | 250 | FA24C0G2E103JNU0 |
| COG | 100pF | ±5% | 450 | FA24C0G2W101JNU0 |
| C0G | 120pF | ±5% | 450 | FA24C0G2W121JNU0 |
| COG | 150pF | ±5% | 450 | FA24C0G2W151JNU0 |
| COG | 180pF | ±5% | 450 | FA24C0G2W181JNU0 |
| COG | 220pF | ±5% | 450 | FA24C0G2W221JNU0 |
| C0G | 270pF | ±5% | 450 | FA24C0G2W271JNU0 |
| COG | 330pF | ±5% | 450 | FA24C0G2W331JNU0 |
| COG | 390pF | ±5% | 450 | FA24C0G2W391JNU0 |
| COG | 470pF | ±5% | 450 | FA24C0G2W471JNU0 |
| COG | 560pF | ±5% | 450 | FA24C0G2W561JNU0 |
| COG | 680pF | ±5% | 450 | FA24C0G2W681JNU0 |
| C0G | 820pF | ±5% | 450 | FA24C0G2W821JNU0 |
| COG | 1nF | ±5% | 450 | FA24C0G2W102JNU0 |
| COG | 1.2nF | ±5% | 450 | FA24C0G2W122JNU0 |
| COG | 1.5nF | ±5% | 450 | FA24C0G2W152JNU0 |
| COG | 1.8nF | ±5% | 450 | FA24C0G2W182JNU0 |
| COG | 2.2nF | ±5% | 450 | FA24C0G2W222JNU0 |
| COG | 2.7nF | ±5% | 450 | FA24C0G2W272JNU0 |
| COG | 3.3nF | ±5% | 450 | FA24C0G2W332JNU0 |
| COG | 3.9nF | ±5% | 450 | FA24C0G2W392JNU0 |
| COG | 4.7nF | ±5% | 450 | FA24C0G2W472JNU0 |
| COG | 5.6nF | ±5% | 450 | FA24C0G2W562JNU0 |
| | s are TDK's standar | | | |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

FA24 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|--------------|--------------------------|------------------|
| X7R | 470nF | ±10% | 25 | FA24X7R1E474KNU0 |
| X7R | 3.3uF | ±10% | 25 | FA24X7R1E335KRU0 |
| X7R | 4.7uF | ±10% | 25 | FA24X7R1E475KRU0 |
| X7R | 150nF | ±10% | 50 | FA24X7R1H154KNU0 |
| X7R | 220nF | ±10% | 50 | FA24X7R1H224KNU0 |
| X7R | 330nF | ±10% | 50 | FA24X7R1H334KNU0 |
| X7R | 680nF | ±10% | 50 | FA24X7R1H684KRU0 |
| X7R | 1uF | ±10% | 50 | FA24X7R1H105KRU0 |
| X7R | 1.5uF | ±10% | 50 | FA24X7R1H155KRU0 |
| X7R | 2.2uF | ±10% | 50 | FA24X7R1H225KRU0 |
| X7R | 33nF | ±10% | 100 | FA24X7R2A333KNU0 |
| X7R | 47nF | ±10% | 100 | FA24X7R2A473KNU0 |
| X7R | 68nF | ±10% | 100 | FA24X7R2A683KNU0 |
| X7R | 100nF | ±10% | 100 | FA24X7R2A104KNU0 |
| X7R | 1nF | ±10% | 250 | FA24X7R2E102KNU0 |
| X7R | 1.5nF | ±10% | 250 | FA24X7R2E152KNU0 |
| X7R | 2.2nF | ±10% | 250 | FA24X7R2E222KNU0 |
| X7R | 3.3nF | ±10% | 250 | FA24X7R2E332KNU0 |
| X7R | 4.7nF | ±10% | 250 | FA24X7R2E472KNU0 |
| X7R | 6.8nF | ±10% | 250 | FA24X7R2E682KNU0 |
| X7R | 10nF | ±10% | 250 | FA24X7R2E103KNU0 |
| X7R | 15nF | ±10% | 250 | FA24X7R2E153KNU0 |
| X7R | 22nF | ±10% | 250 | FA24X7R2E223KNU0 |
| X7S | 150nF | ±10% | 100 | FA24X7S2A154KRU0 |
| X7S | 220nF | ±10% | 100 | FA24X7S2A224KRU0 |
| X7S | 330nF | ±10% | 100 | FA24X7S2A334KRU0 |
| X7S | 470nF | ±10% | 100 | FA24X7S2A474KRU0 |
| X7S | 680nF | ±10% | 100 | FA24X7S2A684KRU0 |
| X7S | 1uF | ±10% | 100 | FA24X7S2A105KRU0 |
| X7T | 33nF | ±10 % | 250 | FA24X7T2E333KNU0 |
| X7T | 47nF | ±10% | 250 | FA24X7T2E473KNU0 |
| X7T | 68nF | ±10% | 250 | FA24X7T2E683KNU0 |
| X7T | 100nF | ±10% | 250 | FA24X7T2E104KNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA26 Type

SHAPE & DIMENSIONS





Dimensions in mm

FA26 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| C0G | 47nF | ±5% | 50 | FA26C0G1H473JNU0 ** |
| COG | 68nF | ±5% | 50 | FA26C0G1H683JNU0 |
| COG | 100nF | ±5% | 50 | FA26C0G1H104JNU0 |
| COG | 15nF | ±5% | 100 | FA26C0G2A153JNU0 |
| COG | 22nF | ±5% | 100 | FA26C0G2A223JNU0 |
| COG | 33nF | ±5% | 100 | FA26C0G2A333JNU0 |
| COG | 47nF | ±5% | 100 | FA26C0G2A473JRU00 |
| COG | 68nF | ±5% | 100 | FA26C0G2A683JRU00 |
| COG | 100nF | ±5% | 100 | FA26C0G2A104JRU00 |
| COG | 15nF | ±5% | 250 | FA26C0G2E153JNU0 |
| COG | 22nF | ±5% | 250 | FA26C0G2E223JNU0 |
| COG | 6.8nF | ±5% | 450 | FA26C0G2W682JNU0 |
| COG | 8.2nF | ±5% | 450 | FA26C0G2W822JNU0 |
| COG | 10nF | ±5% | 450 | FA26C0G2W103JNU0 |
| COG | 15nF | ±5% | 450 | FA26C0G2W153JNU0 |
| COG | 100pF | ±5% | 630 | FA26C0G2J101JNU0 |
| COG | 120pF | ±5% | 630 | FA26C0G2J121JNU0 |
| COG | 150pF | ±5% | 630 | FA26C0G2J151JNU0 |
| COG | 180pF | ±5% | 630 | FA26C0G2J181JNU0 |
| COG | 220pF | ±5% | 630 | FA26C0G2J221JNU0 |
| COG | 270pF | ±5% | 630 | FA26C0G2J271JNU0 |
| COG | 330pF | ±5% | 630 | FA26C0G2J331JNU0 |
| COG | 390pF | ±5% | 630 | FA26C0G2J391JNU0 |
| COG | 470pF | ±5% | 630 | FA26C0G2J471JNU0 |
| COG | 560pF | ±5% | 630 | FA26C0G2J561JNU0 |
| COG | 680pF | ±5% | 630 | FA26C0G2J681JNU0 |
| COG | 820pF | ±5% | 630 | FA26C0G2J821JNU0 |
| COG | 1nF | ±5% | 630 | FA26C0G2J102JNU0 |
| COG | 1.2nF | ±5% | 630 | FA26C0G2J122JNU0 |
| COG | 1.5nF | ±5% | 630 | FA26C0G2J152JNU0 |
| COG | 1.8nF | ±5% | 630 | FA26C0G2J182JNU0 |
| COG | 2.2nF | ±5% | 630 | FA26C0G2J222JNU0 |
| COG | 2.7nF | ±5% | 630 | FA26C0G2J272JNU0 |
| COG | 3.3nF | ±5% | 630 | FA26C0G2J332JNU0 |
| COG | 3.9nF | ±5% | 630 | FA26C0G2J392JNU0 |
| COG | 4.7nF | ±5% | 630 | FA26C0G2J472JNU0 |
| COG | 5.6nF | ±5% | 630 | FA26C0G2J562JNU0 |
| COG | 6.8nF | ±5% | 630 | FA26C0G2J682JNU0 |
| C0G | 8.2nF | ±5% | 630 | FA26C0G2J822JNU0 |
| COG | 10nF | ±5% | 630 | FA26C0G2J103JNU0 |

* The part numbers are TDK's standard specification products.

** The " \Box " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

FA26 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|--------------|--------------------------|---------------------|
| X7R | 1uF | ±10% | 25 | FA26X7R1E105KNU0 ** |
| X7R | 1.5uF | ±10 % | 25 | FA26X7R1E155KNU0 |
| X7R | 2.2uF | ±10% | 25 | FA26X7R1E225KNU0 |
| X7R | 6.8uF | ±10% | 25 | FA26X7R1E685KRU0 |
| X7R | 10uF | ±10% | 25 | FA26X7R1E106KRU0 |
| X7R | 470nF | ±10 % | 50 | FA26X7R1H474KNU0 |
| X7R | 680nF | ±10% | 50 | FA26X7R1H684KNU0 |
| X7R | 3.3uF | ±10% | 50 | FA26X7R1H335KRU0 |
| X7R | 4.7uF | ±10% | 50 | FA26X7R1H475KRU0 |
| X7R | 150nF | ±10% | 100 | FA26X7R2A154KNU0 |
| X7R | 220nF | ±10% | 100 | FA26X7R2A224KNU0 |
| X7R | 330nF | ±10% | 100 | FA26X7R2A334KNU0 |
| X7R | 470nF | ±10% | 100 | FA26X7R2A474KNU0 |
| X7R | 680nF | ±10% | 100 | FA26X7R2A684KNU0 |
| X7R | 1uF | ±10% | 100 | FA26X7R2A105KNU0 |
| X7R | 33nF | ±10% | 250 | FA26X7R2E333KNU0 |
| X7R | 47nF | ±10% | 250 | FA26X7R2E473KNU0 |
| X7R | 68nF | ±10% | 250 | FA26X7R2E683KNU0 |
| X7R | 100nF | ±10% | 250 | FA26X7R2E104KNU0 |
| X7R | 1nF | ±10% | 630 | FA26X7R2J102KNU0 |
| X7R | 1.5nF | ±10% | 630 | FA26X7R2J152KNU0 |
| X7R | 2.2nF | ±10% | 630 | FA26X7R2J222KNU0 |
| X7R | 3.3nF | ±10% | 630 | FA26X7R2J332KNU0 |
| X7R | 4.7nF | ±10% | 630 | FA26X7R2J472KNU0 |
| X7R | 6.8nF | ±10% | 630 | FA26X7R2J682KNU0 |
| X7R | 10nF | ±10% | 630 | FA26X7R2J103KNU0 |
| X7R | 15nF | ±10% | 630 | FA26X7R2J153KNU0 |
| X7R | 22nF | ±10% | 630 | FA26X7R2J223KNU0 |
| X7R | 33nF | ±10% | 630 | FA26X7R2J333KNU0 |
| X7S | 1.5uF | ±10% | 100 | FA26X7S2A155KRU0 |
| X7S | 2.2uF | ±10% | 100 | FA26X7S2A225KRU0 |
| X7S | 3.3uF | ±10% | 100 | FA26X7S2A335KRU0 |
| X7T | 150nF | ±10% | 250 | FA26X7T2E154KNU0 |
| X7T | 220nF | ±10% | 250 | FA26X7T2E224KNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA20 Type

SHAPE & DIMENSIONS





Dimensions in mm

FA20 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| C0G | 47nF | ±5% | 100 | FA20C0G2A473JNU0 ** |
| C0G | 68nF | ±5% | 100 | FA20C0G2A683JNU0 |
| C0G | 33nF | ±5% | 250 | FA20C0G2E333JNU0 |
| C0G | 47nF | ±5% | 250 | FA20C0G2E473JNU0 |
| COG | 22nF | ±5% | 450 | FA20C0G2W223JNU0 |
| COG | 33nF | ±5% | 450 | FA20C0G2W333JNU0 |
| COG | 15nF | ±5% | 630 | FA20C0G2J153JNU0 |
| C0G | 22nF | ±5% | 630 | FA20C0G2J223JNU0 |
| COG | 33nF | ±5% | 630 | FA20C0G2J333JNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| X7R | 3.3uF | ±10% | 25 | FA20X7R1E335KNU0 ** |
| X7R | 4.7uF | ±10% | 25 | FA20X7R1E475KNU0 |
| X7R | 1uF | ±10% | 50 | FA20X7R1H105KNU0 |
| X7R | 1.5uF | ±10% | 50 | FA20X7R1H155KNU0 |
| X7R | 1.5uF | ±10% | 100 | FA20X7R2A155KRU0 |
| X7R | 2.2uF | ±10% | 100 | FA20X7R2A225KRU0 |
| X7R | 150nF | ±10% | 250 | FA20X7R2E154KNU0 |
| X7R | 220nF | ±10% | 250 | FA20X7R2E224KNU0 |
| X7R | 47nF | ±10% | 630 | FA20X7R2J473KNU0 |
| X7R | 68nF | ±10% | 630 | FA20X7R2J683KNU0 |
| X7S | 6.8uF | ±10% | 50 | FA20X7S1H685KRU0 |
| X7S | 10uF | ±10% | 50 | FA20X7S1H106KRU0 |
| X7S | 4.7uF | ±10% | 100 | FA20X7S2A475KRU0 |
| X7T | 330nF | ±10% | 250 | FA20X7T2E334KNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA22 Type

SHAPE & DIMENSIONS



Dimensions in mm

FA22 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-------------|--------------------------|---------------------|
| COG | 150nF | ±5% | 50 | FA22C0G1H154JNU0 ** |
| C0G | 220nF | ±5% | 50 | FA22C0G1H224JNU0 |
| COG | 100nF | ±5% | 100 | FA22C0G2A104JNU0 |
| C0G | 68nF | ±5% | 250 | FA22C0G2E683JRU0 |
| COG | 100nF | ±5% | 250 | FA22C0G2E104JRU0 |
| C0G | 47nF | ± 5% | 450 | FA22C0G2W473JNU0 |
| COG | 68nF | ±5% | 450 | FA22C0G2W683JNU0 |
| C0G | 47nF | ±5% | 630 | FA22C0G2J473JNU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|--------------|--------------------------|--------------------------------|
| X7R | 10uF | ±10% | 25 | FA22X7R1E106KNU0 ^{**} |
| X7R | 15uF | ±20% | 25 | FA22X7R1E156MRU0 |
| X7R | 22uF | ±20 % | 25 | FA22X7R1E226MRU0 |
| X7R | 2.2uF | ±10% | 50 | FA22X7R1H225KNU0 |
| X7R | 3.3uF | ±10% | 50 | FA22X7R1H335KNU0 |
| X7R | 4.7uF | ±10% | 50 | FA22X7R1H475KRU0 |
| X7R | 6.8uF | ±10% | 50 | FA22X7R1H685KRU0 |
| X7R | 1.5uF | ±10% | 100 | FA22X7R2A155KNU0 |
| X7R | 2.2uF | ±10% | 100 | FA22X7R2A225KNU0 |
| X7R | 330nF | ±10% | 250 | FA22X7R2E334KNU0 |
| X7R | 470nF | ±10% | 250 | FA22X7R2E474KNU0 |
| X7R | 100nF | ±10% | 630 | FA22X7R2J104KNU0 |
| X7T | 680nF | ±10% | 250 | FA22X7T2E684KNU0 |
| X7T | 1uF | ±10% | 250 | FA22X7T2E105KNU0 |

* The part numbers are TDK's standard specification products.

** The " \Box " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA18 Type

SHAPE & DIMENSIONS





Dimensions in mm

FA18 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-------------|--------------------------|--|
| C0G | 1.0pF | ±0.25pF | 50 | FA18C0G1H010CNU0 =** |
| C0G | 1.5pF | ±0.25pF | 50 | FA18C0G1H1R5CNU0 |
| C0G | 2.2pF | ±0.25pF | 50 | FA18C0G1H2R2CNU0 |
| C0G | 3.3pF | ±0.25pF | 50 | FA18C0G1H3R3CNU0 |
| C0G | 4.7pF | ±0.25pF | 50 | FA18C0G1H4R7CNU0 |
| C0G | 6.8pF | ±0.5pF | 50 | FA18C0G1H6R8DNU0 |
| C0G | 10pF | ±0.5pF | 50 | FA18C0G1H100DNU0 |
| C0G | 15pF | ±5% | 50 | FA18C0G1H150JNU0 |
| C0G | 22pF | ±5% | 50 | FA18C0G1H220JNU0 |
| C0G | 33pF | ±5% | 50 | FA18C0G1H330JNU0 |
| C0G | 47pF | ±5% | 50 | FA18C0G1H470JNU0 |
| COG | 68pF | ±5% | 50 | FA18C0G1H680JNU0 |
| COG | 100pF | ±5% | 50 | FA18C0G1H101JNU0 |
| COG | 120pF | ±5% | 50 | |
| COG | 150pF | ±5% | 50 | FA18C0G1H121JNU0 FA18C0G1H151JNU0 FA18C0G1H151JNU0 |
| COG | 180pF | | 50 | |
| COG | 220pF | ±5% | 50 | FA18C0G1H181JNU0 |
| COG | | ±5% | | FA18C0G1H221JNU0 |
| | 270pF | ±5% | 50 | FA18C0G1H271JNU0 |
| COG | 330pF | ±5% | 50 | FA18C0G1H331JNU0 |
| COG | 390pF | ±5% | 50 | FA18C0G1H391JNU0 |
| COG | 470pF | ±5% | 50 | FA18C0G1H471JNU0 |
| C0G | 560pF | ± 5% | 50 | FA18C0G1H561JNU0 |
| C0G | 680pF | ±5% | 50 | FA18C0G1H681JNU0 |
| C0G | 820pF | ±5% | 50 | FA18C0G1H821JNU0 |
| C0G | 1nF | ±5% | 50 | FA18C0G1H102JNU0 |
| C0G | 1.2nF | ±5% | 50 | FA18C0G1H122JNU0 |
| C0G | 1.5nF | ±5% | 50 | FA18C0G1H152JNU0 |
| C0G | 1.8nF | ±5% | 50 | FA18C0G1H182JNU0 |
| C0G | 2.2nF | ±5% | 50 | FA18C0G1H222JNU0 |
| C0G | 2.7nF | ±5% | 50 | FA18C0G1H272JNU0 |
| C0G | 3.3nF | ± 5% | 50 | FA18C0G1H332JNU0 |
| C0G | 3.9nF | ±5% | 50 | FA18C0G1H392JNU0 |
| C0G | 4.7nF | ±5% | 50 | FA18C0G1H472JNU0 |
| C0G | 5.6nF | ±5% | 50 | FA18C0G1H562JNU0 |
| C0G | 6.8nF | ±5% | 50 | FA18C0G1H682JNU0 |
| C0G | 8.2nF | ±5% | 50 | FA18C0G1H822JNU0 |
| C0G | 10nF | ±5% | 50 | FA18C0G1H103JNU0 |
| C0G | 1.0pF | ±0.25pF | 100 | FA18C0G2A010CNU0 |
| C0G | 1.5pF | ±0.25pF | 100 | FA18C0G2A1R5CNU0 |
| C0G | 2.2pF | ±0.25pF | 100 | FA18C0G2A2R2CNU0 |
| C0G | 3.3pF | ±0.25pF | 100 | FA18C0G2A3R3CNU0 |
| C0G | 4.7pF | ±0.25pF | 100 | FA18C0G2A4R7CNU0 |
| C0G | 6.8pF | ±0.5pF | 100 | FA18C0G2A6R8DNU0 |
| COG | 10pF | ±0.5pF | 100 | FA18C0G2A100DNU0 |
| COG | 15pF | ±5% | 100 | FA18C0G2A150JNU0 |
| COG | 22pF | ±5% | 100 | FA18C0G2A220JNU0 |
| C0G | 33pF | ±5% | 100 | FA18C0G2A320JNU0 |
| COG | 47pF | ±5% | 100 | FA18C0G2A470JNU0 |
| COG | 68pF | <u>±5</u> % | 100 | |
| COG | 100pF | | 100 | FA18C0G2A680JNU0 |
| | TOUPF | ±5% | | |

 * The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

FA18 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------------|-----------------------|--------------------------|--------------------------------|
| C0G | 120pF | ± 5% | 100 | FA18C0G2A121JNU0 ^{**} |
| C0G | 150pF | ±5% | 100 | FA18C0G2A151JNU0 |
| C0G | 180pF | ±5% | 100 | FA18C0G2A181JNU0 |
| C0G | 220pF | ±5% | 100 | FA18C0G2A221JNU0 |
| C0G | 270pF | ±5% | 100 | FA18C0G2A271JNU0 |
| C0G | 330pF | ±5% | 100 | FA18C0G2A331JNU0 |
| C0G | 390pF | ±5% | 100 | FA18C0G2A391JNU0 |
| C0G | 470pF | ±5% | 100 | FA18C0G2A471JNU0 |
| COG | 560pF | ±5% | 100 | FA18C0G2A561JNU0 |
| C0G | 680pF | ±5% | 100 | FA18C0G2A681JNU0 |
| C0G | 820pF | ±5% | 100 | FA18C0G2A821JNU0 |
| C0G | 1nF | ±5% | 100 | FA18C0G2A102JNU0 |
| C0G | 1.2nF | ±5% | 100 | FA18C0G2A122JNU0 |
| C0G | 1.5nF | ±5% | 100 | FA18C0G2A152JNU0 |
| COG | 1.8nF | ±5% | 100 | FA18C0G2A182JNU0 |
| C0G | 2.2nF | ±5% | 100 | FA18C0G2A222JNU0 |
| C0G | 2.7nF | ±5% | 100 | FA18C0G2A272JNU0 |
| C0G | 3.3nF | ±5% | 100 | FA18C0G2A332JNU0 |
| C0G | 3.9nF | ±5% | 100 | FA18C0G2A392JRU0 |
| C0G | 4.7nF | ±5% | 100 | FA18C0G2A472JRU0 |
| C0G | 5.6nF | ±5% | 100 | FA18C0G2A562JRU0 |
| C0G | 6.8nF | ±5% | 100 | FA18C0G2A682JRU0 |
| C0G | 8.2nF | ±5% | 100 | FA18C0G2A822JRU0 |
| C0G | 10nF | ±5% | 100 | FA18C0G2A103JRU0 |
| * The part number | ara TDK'a atandar | d enacification produ | isto | |

* The part numbers are TDK's standard specification products.

** The " \square " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

A Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

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FA18 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| X7R | 150nF | ±10% | 25 | FA18X7R1E154KNU0 ** |
| X7R | 680nF | ±10% | 25 | FA18X7R1E684KRU0 |
| X7R | 1uF | ±10% | 25 | FA18X7R1E105KRU0 |
| X7R | 220pF | ±10% | 50 | FA18X7R1H221KNU0 |
| X7R | 330pF | ±10% | 50 | FA18X7R1H331KNU0 |
| X7R | 470pF | ±10% | 50 | FA18X7R1H471KNU0 |
| X7R | 680pF | ±10% | 50 | FA18X7R1H681KNU0 |
| X7R | 1nF | ±10% | 50 | FA18X7R1H102KNU0 |
| X7R | 1.5nF | ±10% | 50 | FA18X7R1H152KNU0 |
| X7R | 2.2nF | ±10% | 50 | FA18X7R1H222KNU0 |
| X7R | 3.3nF | ±10% | 50 | FA18X7R1H332KNU0 |
| X7R | 4.7nF | ±10% | 50 | FA18X7R1H472KNU0 |
| X7R | 6.8nF | ±10% | 50 | FA18X7R1H682KNU0 |
| X7R | 10nF | ±10% | 50 | FA18X7R1H103KNU0 |
| X7R | 15nF | ±10% | 50 | FA18X7R1H153KNU0 |
| X7R | 22nF | ±10% | 50 | FA18X7R1H223KNU0 |
| X7R | 33nF | ±10% | 50 | FA18X7R1H333KNU0 |
| X7R | 47nF | ±10% | 50 | FA18X7R1H473KNU0 |
| X7R | 68nF | ±10% | 50 | FA18X7R1H683KNU0 |
| X7R | 100nF | ±10% | 50 | FA18X7R1H104KNU0 |
| X7R | 150nF | ±10% | 50 | FA18X7R1H154KRU0 |
| X7R | 220nF | ±10% | 50 | FA18X7R1H224KRU0 |
| X7R | 330nF | ±10% | 50 | FA18X7R1H334KRU0 |
| X7R | 470nF | ±10% | 50 | FA18X7R1H474KRU0 |
| X7R | 220pF | ±10% | 100 | FA18X7R2A221KNU0 |
| X7R | 330pF | ±10% | 100 | FA18X7R2A331KNU0 |
| X7R | 470pF | ±10% | 100 | FA18X7R2A471KNU0 |
| X7R | 680pF | ±10% | 100 | FA18X7R2A681KNU0 |
| X7R | 1nF | ±10% | 100 | FA18X7R2A102KNU0 |
| X7R | 1.5nF | ±10% | 100 | FA18X7R2A152KNU0 |
| X7R | 2.2nF | ±10% | 100 | FA18X7R2A222KNU0 |
| X7R | 3.3nF | ±10% | 100 | FA18X7R2A332KNU0 |
| X7R | 4.7nF | ±10% | 100 | FA18X7R2A472KNU0 |
| X7R | 6.8nF | ±10% | 100 | FA18X7R2A682KNU0 |
| X7R | 10nF | ±10% | 100 | FA18X7R2A103KNU0 |
| X7R | 15nF | ±10% | 100 | FA18X7R2A153KNU0 |
| X7R | 22nF | ±10% | 100 | FA18X7R2A223KNU0 |
| X7S | 33nF | ±10% | 100 | FA18X7S2A333KRU0 |
| X7S | 47nF | ±10% | 100 | FA18X7S2A473KRU0 |
| X7S | 68nF | ±10% | 100 | FA18X7S2A683KRU0 |
| X7S | 100nF | ±10% | 100 | FA18X7S2A104KRU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA14 Type

SHAPE & DIMENSIONS





FA14 Type

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-------------|--------------------------|------------------|
| C0G | 15nF | ± 5% | 50 | FA14C0G1H153JNU0 |
| COG | 22nF | ±5% | 50 | FA14C0G1H223JNU0 |
| COG | 33nF | ±5% | 50 | FA14C0G1H333JNU0 |
| C0G | 3.9nF | ±5% | 100 | FA14C0G2A392JNU0 |
| COG | 4.7nF | ±5% | 100 | FA14C0G2A472JNU0 |
| C0G | 5.6nF | ± 5% | 100 | FA14C0G2A562JNU0 |
| COG | 6.8nF | ±5% | 100 | FA14C0G2A682JNU0 |
| C0G | 8.2nF | ±5% | 100 | FA14C0G2A822JNU0 |
| COG | 10nF | ±5% | 100 | FA14C0G2A103JNU0 |
| C0G | 15nF | ±5% | 100 | FA14C0G2A153JRU0 |
| C0G | 22nF | ±5% | 100 | FA14C0G2A223JRU0 |
| C0G | 33nF | ±5% | 100 | FA14C0G2A333JRU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| X7R | 470nF | ±10% | 25 | FA14X7R1E474KNU0 ** |
| X7R | 3.3uF | ±10% | 25 | FA14X7R1E335KRU0 |
| X7R | 4.7uF | ±10% | 25 | FA14X7R1E475KRU0 |
| X7R | 150nF | ±10% | 50 | FA14X7R1H154KNU0 |
| X7R | 220nF | ±10% | 50 | FA14X7R1H224KNU0 |
| X7R | 330nF | ±10% | 50 | FA14X7R1H334KNU0 |
| X7R | 680nF | ±10% | 50 | FA14X7R1H684KRU0 |
| X7R | 1uF | ±10% | 50 | FA14X7R1H105KRU0 |
| X7R | 1.5uF | ±10% | 50 | FA14X7R1H155KRU0 |
| X7R | 2.2uF | ±10% | 50 | FA14X7R1H225KRU0 |
| X7R | 33nF | ±10% | 100 | FA14X7R2A333KNU0 |
| X7R | 47nF | ±10% | 100 | FA14X7R2A473KNU0 |
| X7R | 68nF | ±10% | 100 | FA14X7R2A683KNU0 |
| X7R | 100nF | ±10% | 100 | FA14X7R2A104KNU0 |
| X7S | 150nF | ±10% | 100 | FA14X7S2A154KRU0 |
| X7S | 220nF | ±10% | 100 | FA14X7S2A224KRU0 |
| X7S | 330nF | ±10% | 100 | FA14X7S2A334KRU0 |
| X7S | 470nF | ±10% | 100 | FA14X7S2A474KRU0 |
| X7S | 680nF | ±10% | 100 | FA14X7S2A684KRU0 |
| X7S | 1uF | ±10% | 100 | FA14X7S2A105KRU0 |

* The part numbers are TDK's standard specification products.

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CAPACITORS

FA16 Type

SHAPE & DIMENSIONS





FA16 Type

ELECTRICAL CHARACTERISTICS

□CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-------------|--------------------------|---------------------|
| COG | 47nF | ±5% | 50 | FA16C0G1H473JNU0 ** |
| C0G | 68nF | ± 5% | 50 | FA16C0G1H683JNU0 |
| COG | 100nF | ±5% | 50 | FA16C0G1H104JNU0 |
| C0G | 15nF | ±5% | 100 | FA16C0G2A153JNU0 |
| COG | 22nF | ±5% | 100 | FA16C0G2A223JNU0 |
| C0G | 33nF | ±5% | 100 | FA16C0G2A333JNU0 |
| C0G | 47nF | ±5% | 100 | FA16C0G2A473JRU0 |
| C0G | 68nF | ±5% | 100 | FA16C0G2A683JRU0 |
| C0G | 100nF | ±5% | 100 | FA16C0G2A104JRU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

CHARACTERISTICS SPECIFICATION TABLE

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| X7R | 1uF | ±10% | 25 | FA16X7R1E105KNU0 ** |
| X7R | 1.5uF | ±10% | 25 | FA16X7R1E155KNU0 |
| X7R | 2.2uF | ±10% | 25 | FA16X7R1E225KNU0 |
| X7R | 6.8uF | ±10% | 25 | FA16X7R1E685KRU0 |
| X7R | 10uF | ±10% | 25 | FA16X7R1E106KRU0 |
| X7R | 470nF | ±10% | 50 | FA16X7R1H474KNU0 |
| X7R | 680nF | ±10% | 50 | FA16X7R1H684KNU0 |
| X7R | 3.3uF | ±10% | 50 | FA16X7R1H335KRU0 |
| X7R | 4.7uF | ±10% | 50 | FA16X7R1H475KRU0 |
| X7R | 150nF | ±10% | 100 | FA16X7R2A154KNU0 |
| X7R | 220nF | ±10% | 100 | FA16X7R2A224KNU0 |
| X7R | 330nF | ±10% | 100 | FA16X7R2A334KNU0 |
| X7R | 470nF | ±10% | 100 | FA16X7R2A474KNU0 |
| X7R | 680nF | ±10% | 100 | FA16X7R2A684KNU0 |
| X7R | 1uF | ±10% | 100 | FA16X7R2A105KNU0 |
| X7S | 1.5uF | ±10% | 100 | FA16X7S2A155KRU0 |
| X7S | 2.2uF | ±10% | 100 | FA16X7S2A225KRU0 |
| X7S | 3.3uF | ±10% | 100 | FA16X7S2A335KRU0 |

* The part numbers are TDK's standard specification products.

** The " 🗌 " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

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CAPACITORS

FA11 Type

SHAPE & DIMENSIONS





Dimensions in mm

FA11 Type

ELECTRICAL CHARACTERISTICS

□CHARACTERISTICS SPECIFICATION TABLE

CLASS 1 (TEMPERATURE COMPENSATION)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| C0G | 47nF | ±5% | 100 | FA11C0G2A473JNU0 ** |
| C0G | 68nF | ±5% | 100 | FA11C0G2A683JNU0 |

* The part numbers are TDK's standard specification products.

** The "
] " of the Part Number contains the packaging symbol, 0 (Bulk packaging) or 6 (Taping packaging).

CLASS 2 (TEMPERATURE STABLE)

| Temperature characteristics | Capacitance | Tolerance | Rated voltage Edc (V) | Part No.* |
|--------------------------------|-------------|-----------|--------------------------|---------------------|
| X7R | 3.3uF | ±10% | 25 | FA11X7R1E335KNU0 ** |
| X7R | 4.7uF | ±10% | 25 | FA11X7R1E475KNU0 |
| X7R | 1uF | ±10% | 50 | FA11X7R1H105KNU0 |
| X7R | 1.5uF | ±10% | 50 | FA11X7R1H155KNU0 |
| X7R | 1.5uF | ±10% | 100 | FA11X7R2A155KRU0 |
| X7R | 2.2uF | ±10% | 100 | FA11X7R2A225KRU0 |
| X7S | 6.8uF | ±10% | 50 | FA11X7S1H685KRU0 |
| X7S | 10uF | ±10% | 50 | FA11X7S1H106KRU0 |
| X7S | 4.7uF | ±10% | 100 | FA11X7S2A475KRU0 |

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Packaging Style

TAPING DIMENSIONS

Lead pitch 5.0 mm

(FA28, FA24, FA26, FA20, FA22 Type)



| Symbol | Dimensions (mm) | |
|------------|-----------------|--|
| Р | 12.7±1.0 | |
| P0*1 | 12.7±0.3 | |
| P 1 | 3.85±0.7 | |
| P2 | 6.35±1.3 | |
| Wo | 12.0±1.0 | |
| W1 | 9.0±0.5 | |
| W2*2 | 3.0max. | |
| Wз | 18.0+1.0, -0.5 | |
| Ho | 16.0±0.5 | |
| l t | 1.0max. | |
| t | 0.6±0.2 | |
| L0*3 | 11.0max. | |
| F | 5.0+0.8, -0.2 | |
| ød | ø0.5+0.1, -0.03 | |
| øD | ø4.0±0.2 | |
| Δh | 0±2 | |

*1 Accumulated pitch tolerance shall be ±2mm for 20 pitches.

*2 Adhesive tape shall not stick out from carrier tape.

*3 The number of consecutive gaps in the product shall be three or less.

Lead pitch 2.5 mm (FA18, FA14, FA16, FA11 Type)



| Symbol | Dimensions (mm) | |
|------------------|-----------------|--|
| Р | 12.7±1.0 | |
| P0*1 | 12.7±0.3 | |
| P1 | 5.1±0.7 | |
| P2 | 6.35±1.3 | |
| Wo | 12.0±1.0 | |
| W1 | 9.0±0.5 | |
| W2*2 | 3.0max. | |
| W3 | 18.0+1.0, -0.5 | |
| Ho | 16.0±0.5 | |
| l t | 1.0max. | |
| t | 0.6±0.2 | |
| Lo* ³ | 11.0max. | |
| F | 2.5+0.5, -0.2 | |
| ød | ø0.5+0.1, -0.03 | |
| øD | ø4.0±0.2 | |
| Δh | 0±2 | |

*1 Accumulated pitch tolerance shall be $\pm 2mm$ for 20 pitches. *2 Adhesive tape shall not stick out from carrier tape.

*3 The number of consecutive gaps in the product shall be three or less.

AMMO PACK INNER BOX SIZE



Dimensions in mm