



ULTRA-LOW ESR NP0 CAPACITORS KGU SERIES



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BASIC OVERVIEW

KYOCERA AVX continues to expand its RF product portfolio with the new KGU series. These multilayer ceramic capacitors feature tight tolerance, high Q, high self-resonance frequency and low equivalent series resistance all in a small case size.

The KGU Series NP0 capacitors are designed for a wide range of frequencies and RF applications.

GENERAL CHARACTERISTICS

"KGU" Series capacitors are COG (NP0) chip capacitors specially designed for "Ultra" low ESR for applications in the communications market. Sizes available are EIA chip sizes 01005 through 0805. This series also features high self-resonance frequencies and base metal electrodes (BME).

The KGU Series can be utilized in a wide range of circuit applications such as matching, tuning, coupling, and DC blocking.

APPLICATIONS

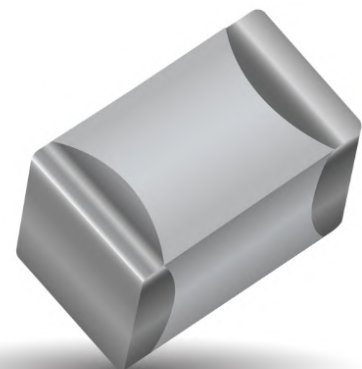
- Cellular Base Stations
- Satellite Communications
- Broadband Wireless Services
- Wi-Fi (802.11)
- Filter and Matching Networks

KEY SPECIFICATIONS

- Sizes: 01005 – 0805
- Rated Voltage: 16V – 250V
- Capacitance: 0.1 – 100 pF
- Tolerance: as low as ± 0.5 pF
- Operating Temperature: -40°C to +125°C

TOP SELLING POINTS / CHARACTERISTICS


- Copper Internal Electrodes
- NP0 Temperature Characteristic (± 30 ppm/°C)
- Ultra-Low Equivalent Series Resistance (ESR)
- Small, Standard EIA, case sizes with Tight Tolerance
- Easy installation





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HOW TO ORDER

| KGU | 02 | A | CG | 1C | 100 | J | H |
|--|--|-----------------------------------|-----------------------------|---|---|--|---|
| Series General Purpose Tin/ Nickel Finish | Size 02 = 01005 05 = 0402 15 = 0603 21 = 0805 | Thickness See Cap Chart | Dielectric COG=CG | Voltage 1C = 16V 1E = 25V 2A = 100v 2D = 200V 2E = 250V | Capacitance Code Two Significant Digits + Number of Zeroes eg. 10 μ F = 106 10nF = 103 47pF = 470 | Tolerance A = ± 0.05 pF (<10pF) B = ± 0.10 pF (<10pF) C = ± 0.25 pF (<10pF) D = ± 0.50 pF (<10pF) F = $\pm 1\%$ (≥ 10 pF) G = $\pm 2\%$ (≥ 10 pF) J = $\pm 5\%$ (≥ 10 pF) K = $\pm 10\%$ (≥ 10 pF) M = +/- 20% | Packaging See Table Below  |

ENVIRONMENTAL CHARACTERISTICS

| | |
|--------------------------|--|
| Thermal Shock | 5 Cycles, -55°C to 125°C |
| Life Test | 1000 hours at 125°C at 2X |
| Solderability | Solder Coverage > 90% of end termination |
| Terminal Strength | 2 lbs. typ., 1 lb. min. |

ELECTRICAL SPECIFICATIONS

| | |
|--|---|
| Quality Factor | C < 30pf $\geq 800 + 20X$ CAP @ 1MHz C ≥ 30 pf ≥ 1500 @ 1MHz |
| Insulation Resistance (IR) | 10 ⁵ Megohms min. @ 25°C at rated WVDC 10 ⁴ Megohms min. @ 125°C at rated WVDC |
| Dielectric Withstanding Voltage (DWV) | 250% of rated WVDC for 5 seconds |
| Aging Effects | None |
| Piezoelectric Effects | None |



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