

INTRODUCTION

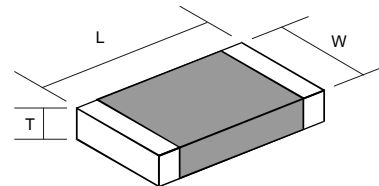
MAQ and MAZ series MLCC offer very low ESR and high Q ratings. Q factor is important in RF frequencies (higher frequencies) and the ESR increases at high frequency and dissipation factor losses also increase. The MAQ and MAZ series capacitors are ideal for RF frequency applications.

FEATURES

- High Q, Low ESR
- High Mounting Density
- Nickel Barrier Termination
- COG / NPO material
- Voltages up to 630V
- RoHS Compliant
- Soft Terminations available upon request

DIMENSIONS

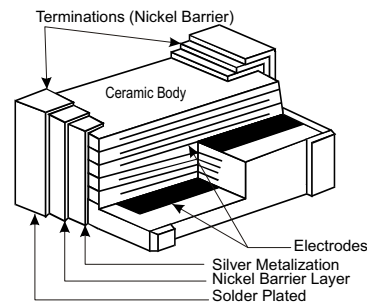
| Size | 0201 | 0402 | 0603 | 0805 |
|----------|---------------|-------------|--------------|-------------|
| LXW IN | 0.024 x 0.012 | 0.04 x 0.02 | 0.063 x 0.03 | 0.08 x 0.05 |
| MM | 0.60 x 0.30 | 1.00 x 0.50 | 1.60 x 0.80 | 2.03 x 1.27 |
| T IN | 0.39 | 0.022 | 0.036 | 0.053 |
| (max) MM | 0.0153 | 0.55 | 0.92 | 1.35 |



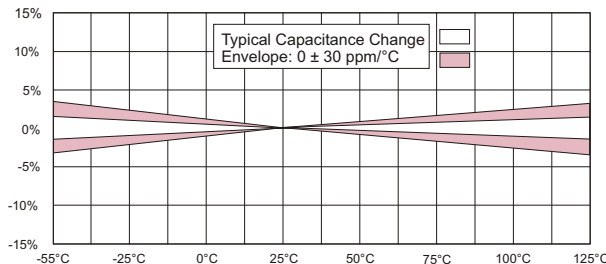
* Thicknesses noted are maximum. Thicknesses are less on low capacitance values.

SPECIFICATIONS

| Specification | COG(NPO) |
|-----------------------|-------------------|
| Temp(°C) | -55~ +125 |
| TempCoeff | 0% ±30PPM |
| Dissipation (25°C) | <0.001@1KHz |
| Insulation Resistance | >1000MΩF or 100GΩ |



COG/NPO: Typical Capacitance Change vs. Temperature



Q (at 25°C)

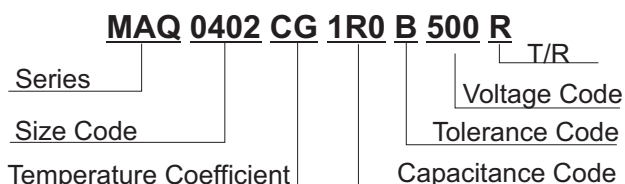
| Size | MAQ Series | MAZ Series |
|------|--|---|
| 0201 | $\xi \text{ } \mu\text{C} \vee \dot{\text{C}} \text{ } \mu\text{C} \square \text{ } \mu\text{C} /$ $\geq 30\text{pF} : Q \geq 1000$ | 25V~50V, < 30pF : $Q \geq 400 + 200$, $\geq 30\text{pF} : Q \geq 1000$ |
| 0402 | | 25V~50V, < 30pF : $Q \geq 400 + 200$, $\geq 30\text{pF} : Q \geq 1000$ |
| 0603 | | 100V~200V, < 30pF : $Q \geq 800 + 200$, $\geq 30\text{pF} : Q \geq 1400$ |
| 0805 | | < 30pF : $Q \geq 800 + 200$, $\geq 30\text{pF} : Q \geq 1400$ |
| 0805 | | < 30pF : $Q \geq 800 + 200$, $\geq 30\text{pF} : Q \geq 1400$ |

*Surface mount offerings continue to change, please contact RFE International, for values, sizes, and voltages not listed.

STANDARD VOLTAGES AND CAPACITANCE RANGES (pF)

| Size Code | Temperature Coefficient | | MAQ | MAZ |
|-----------|-------------------------|------|------------|-----------|
| | Voltage | Code | | |
| 0201 | 6.3V | 060 | | 0.1 33 |
| | 10V | 100 | 0.5 ~ 33 | 0.1 ~ 33 |
| | 16V | 160 | 0.5 ~ 33 | |
| | 25V | 250 | 0.5 ~ 33 | 0.1 ~ 33 |
| | 50V | 500 | 0.5 ~ 33 | 0.1 ~ 33 |
| 0402 | 16V | 160 | 0.5 ~ 470 | |
| | 25V | 250 | 0.5 ~ 470 | 0.1 ~ 100 |
| | 50V | 500 | 0.5 ~ 470 | 0.1 ~ 56 |
| | 100V | 101 | 0.5 ~ 220 | 0.1 ~ 56 |
| | 200V | 201 | | 0.1 ~ 33 |
| 0603 | 16V | 160 | 0.5 ~ 3300 | |
| | 25V | 250 | 0.5 ~ 3300 | |
| | 50V | 500 | 0.5 ~ 3300 | 0.1 ~ 100 |
| | 100V | 101 | 0.5 ~ 1000 | 0.1 ~ 100 |
| | 250V | 251 | | 0.1 ~ 100 |
| 0805 | 50V | 500 | 0.5 ~ 150 | 0.2 ~ 100 |
| | 100V | 101 | 0.5 ~ 150 | 0.2 ~ 100 |
| | 200V | 201 | 1.0 ~ 391 | |
| | 250V | 251 | 1.0 ~ 391 | 0.2 ~ 100 |
| | 500V | 501 | 1.0 ~ 391 | 0.2 ~ 68 |
| | 630V | 631 | 1.0 ~ 391 | |

PART NUMBER EXAMPLE



TOLERANCE CODE

| Code | Capacitance Tolerance |
|------|-----------------------|
| A | ±0.05pF |
| B | ±0.1pF |
| C | ±0.25pF |
| D | ±0.5pF |
| F | ±1% |
| G | ±2% |
| J | ±5% |

CAPACITANCE CODE (pF)

| Code | 0R5 | 1R0 | 100 | 330 | 101 | 332 |
|-------------|--------|--------|-------|-------|--------|---------|
| Capacitance | 0.5 pF | 1.0 pF | 10 pF | 33 pF | 100 pF | 3300 pF |

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