



# High Quality Factor NPO MLCC for High Frequency Applications - AQ Series

## Automotive Grade High Frequency MLCC – AQ series



Yageo Corporation, the global leading passive component service provider, has introduced the automotive grade high frequency AQ series, with temperature stable NPO dielectrics, of multi-layer ceramic capacitors (MLCC). The first released range covers 0603 0.2pF ~ 100pF with 50V rated voltage. Early next year, the same capacitance range will extend to 0402 and 0603 with 250V rated voltage

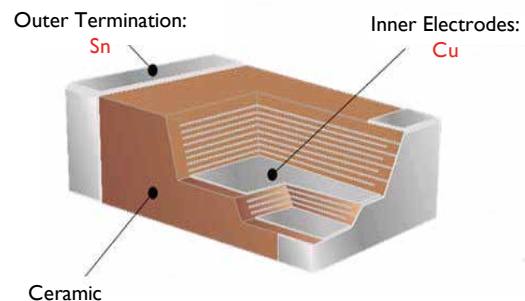
Featuring excellent temperature characteristics and a narrow tolerance of capacitance, the AQ series capacitors apply in-house concept in both material and processing designs. The development demonstrates Yageo's leading position in innovation and R&D, as well as the firm's commitment to meeting customer's needs. The figure 1 shows the inner construction of AQ.

High-Q capacitors, also known as high quality factor capacitors, provide high quality factor (low dielectric loss), low power dissipation, and better efficiency than standard MLCCs. The AQ series high frequency MLCCs are typically used in applications with high frequencies from 500MHz to 10GHz. With improved low power consumption for mobile telecommunications,


the AQ series has copper inner electrodes that allow for low ESR (Equivalent Serial Resistance), low ESL (Equivalent Serial Inductance), and high SRF (Self Resonant Frequency) in UHF (300MHz-3GHz), SHF(3GHz-30GHz) and microwave frequency bands. They are ideal for high frequency applications such as impedance matching, decoupling, and resonance circuits.

Just like Yageo's other automotive grade MLCCs AC and AS, Yageo treats AEC-Q200 criteria as the basic quality requirements for its AQ series MLCC. To reach even higher quality level, longer life, and more superior reliability, the approaches including high quality raw material, advanced and dedicated production line, tightened processing control, and entire in line and outgoing automatic check are adopted on top of the existing production standards.

Production part approval process (PPAP) documents are ready for AQ series items. As all other Yageo's MLCC series, AQ series is RoHS compliant too and with improved thermal and mechanical robustness. This offers customers a wider variety of choices and solutions in order to meet various application demands and requirements.



**Figure 1** Cross section of CQ MLCC construction

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