

**EC1001P Ultra-low Profile 1005/0402 Size 220nF Silicon Capacitor****PRODUCT BRIEF****Features**

- 220nF Capacitance
- Ultra-low AC/DC bias variation
- 1.00mm x 0.50mm (0402) footprint
- Ultra low-profile of 150µm
- Very low ESL and ESR
- High stability over Temperature
- Low leakage current
- Lead-free copper finish compatible with automatic soldering technologies reflow or manual. Other terminations available upon request.
- Temperature range: -55 °C to +125 °C

**Applications**

- Decoupling in Power Distribution Network
- Voltage Regulator (VR) bypass capacitor
- Power supply noise suppression
- Power Integrity for high-speed IC
- Signal integrity of high-speed interface
- High frequency noise suppression
- Applications with low-profile requirement

**Description**

The EC1001P ECAP is a 220nF high-performance ultra-low profile silicon capacitor targeting power integrity and signal integrity in both high di/dt SoC and in high-speed communications SoCs. Ultra-low ESL (Equivalent Series Inductance) and ESR (Equivalent Series Resistance) of the capacitor enable excellent behavior at high frequency, making it the perfect match for power supply decoupling and bypassing of high-speed digital SoCs.

The EC1001P capacitor features ultra-low thickness (150 µm, not including the pads) which enables advanced assembly with strict height restrictions (processor package, BGA landside, embedded package, etc.). Empower's industry leading silicon capacitor products provide high stability over voltage and temperature. Therefore, the ECAP capacitors are not subject to derating as with MLCCs. For example, a 220nF ECAP has the effective capacitance comparable to a 400nF X5R MLCC.

## Data Sheet Notice & Legal Disclaimer

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