

## Features

- 620nF Capacitor Array split over five terminals (3x 110 nF, 146nF, 200nF)
- Ultra-low AC/DC bias variation
- 2.53mm x 0.6mm footprint
- Ultra low-profile of 150um
- 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 EC1100P ECAP is a 620nF high-performance, ultra-low profile, multiple capacitor array targeting power integrity and signal integrity in both high di/dt SoC and in high-speed communications SoCs. The capacitor's ultra-low ESL (Equivalent Series Inductance) and ESR (Equivalent Series Resistance) enable excellent behavior at high frequency, making it the perfect match for power supply decoupling and bypass of high-speed digital SoCs.

The EC1100P provides the total capacitance over five output terminals enabling flexibility to provide the required capacitance for different applications. For example, the EC1100P outputs are combined to form three output decoupling capacitors of 235nF, 102nF and 185nF respectively for the three outputs of the EP70xx family of IVRs from Empower.

The EC1100P capacitor features ultra-low thickness (150 um, 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 620nF ECAP capacitor has the effective capacitance comparable to a 1uF X5R MLCC.

## Data Sheet Notice & Legal Disclaimer

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