

High stability. High voltage. Unwavering performance.

Optimize your power electronics with high-capacitance MLCCs designed to operate reliably and efficiently in the most demanding applications.

Hiteca™ Multilayer Ceramic Capacitors (MLCCs) Product Overview

For power electronics used in high-temperature environments such as electric vehicles or industrial applications, you can't afford to protect your capacitors with cooling systems that can add weight and increase your product's overall footprint. Instead, discover how our Hiteca™ range of multilayer ceramic capacitors delivers low losses while offering high, stable capacitance up to maximum voltage and temperature.

Through our unique, patented dielectric system, Hiteca™ MLCCs are able to achieve a capacitance aging rate of 0% per decade, and a typical capacitance reduction of <45% at full rated voltage. This makes them the perfect choice for applications such as DC bus smoothing, while their non-piezo construction makes them ideal for snubber capacitors.

And with lower self-heating properties and low loss operation, they can also handle higher ripple currents than conventional ceramic capacitors. Talk to us today to learn more about our Hiteca™ MLCCs, and explore how they can help you ensure the performance and reliability of your power electronics in a wider range of operating conditions.



FEATURES

- High Capacitance, High Voltage
- Low loss AC operation
- Non-piezo construction
- Series of part numbers 1206-4040
- Up to 2000Vdc

BENEFITS

- High capacitance
- Capacitance stability over temperature and voltage
- Zero capacitance aging
- Lower parasitic losses under common operating conditions

APPLICATIONS

- Power supply
- Industrial
- Automotive/Inverter/Filtering/Smoothing
- Ripple current smoothing
- Snubber capacitors

ELECTRICAL DETAILS

Capacitance Range	See website for latest range
Temperature Coefficient of Capacitance (TCC)	$\pm 15\%$ max (typically +0% to -10%)
Typical Capacitance Drop at Maximum Operating Voltage	~10-45%
Insulation Resistance (IR)	100G Ω or 1,000 seconds (whichever is less)
Dielectric Withstand Voltage (DWV)	Voltage applied for 5-second maximum, 50mA charging current maximum
Aging Rate	0%
Operating Temperature Range	-55°C/+125°C

Comparison of different capacitor types

The table below shows the maximum and minimum capacitance values measured, and the bias voltage at which they were obtained:

Capacitance	330nF 630V Hiteca™	470nF 2000V X7R	470nF 630V X7T
Maximum	330nF at 0V bias	470nF at 0V bias	470nF at 0V bias
Minimum	210nF at 600V bias	110nF at 600V bias	140nF at 600V bias

Note that Hiteca™ provides the highest capacitance at 600Vdc applied bias, despite having the lowest capacitance rating.

