JOHANSON DIELECTRICS

Johanson Dielectrics has been a worldwide producer of high quality ceramic chip capacitors for over 30 years. Our success has enabled steady expansion of manufacturing facilities and focus on new product development ensuring our ability to respond to the ever changing needs of our customers.

For everything from high volume, low cost capacitors to application specific ceramic solutions, Johanson Dielectrics has you covered. Our wide product offering includes the following:

- X2Y® Filtering and Decoupling Capacitors
- Surface Mount MLC Capacitors
- High Voltage MLC Capacitors
- Safety Certified Capacitors
- Tip & Ring Chip Capacitors
- Tanceram Chip Capacitors (for Tantalum replacement)
- Large Size MLC Capacitors
- PolyTerm® Ceramic Caps

The combination of a high-quality and extensive product offering, low lead times, and a worldwide network of sales and manufacturing locations makes Johanson Dielectrics a world-class business partner.

X2Y® Filtering and Decoupling Capacitors

X2Y® filter capacitors employ a unique, patented low inductance design featuring two balanced capacitors that are immune to temperature, voltage and aging performance differences. The components offer superior decoupling and EMI filtering performance, virtually eliminate parasitics, and can replace multiple capacitors and inductors saving board space and reducing assembly costs.

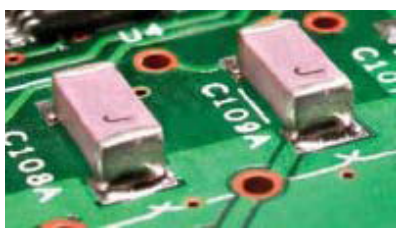
Surface Mount MLC Capacitors

Johanson offers a wide range of standard surface mount ceramic chip capacitors in NPO, X7R, X5R and Y5V dielectrics rated from 10 to 200 VDC. These MLCs have barrier terminations and come in tape and reel packaging.

High Voltage MLC capacitors

These high voltage capacitors feature a special internal electrode design which reduces voltage concentrations by distributing voltage gradients throughout the entire capacitor. This unique design also affords increased capacitance values in a given case size and voltage rating. The capacitors are designed and manufactured to the general requirement of EIA198 and are subjected to a 100% electrical testing making them well suited for a wide variety of telecommunication, commercial, and industrial applications.

Safety Certified Capacitors

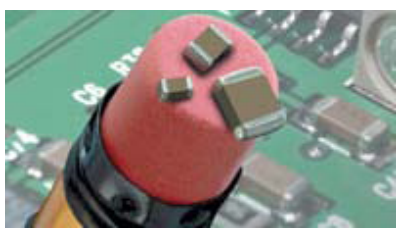


Johanson Dielectrics Type SC ceramic chip capacitors are designed for AC voltage surge and lightning protection in line-to-ground interface applications in computer network, modem, facsimile and other equipment. Johanson's safety capacitor offering includes four different case sizes and NPO and X7R dielectric materials. These devices are surface mount ready with barrier terminations and tape and reel packaging.

Tip & Ring Chip Capacitors

The Tip & Ring MLCC series are designed specifically for telecom ringer circuit applications where it is necessary to provide a block of the line voltage (typically -48 VDC) while passing the AC ringing voltage. These compact ceramic SMD chips replace bulky leaded film caps saving board space and stream-lining the assembly process.

Tanceram (for Tantalum replacement)



TANCERAM® chip capacitors can replace tantalum capacitors in many applications and offer several key advantages over traditional tantalums. Because Tanceram® capacitors exhibit extremely low ESR, equivalent circuit performance can often be achieved using considerably lower capacitance values. Low DC leakage reduces current drain, extending the battery life of portable products. Tancerams® high DC breakdown voltage ratings offer improved reliability and eliminate large voltage de-rating common when designing with tantalums

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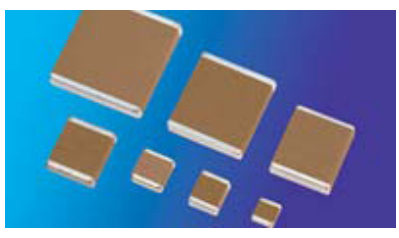
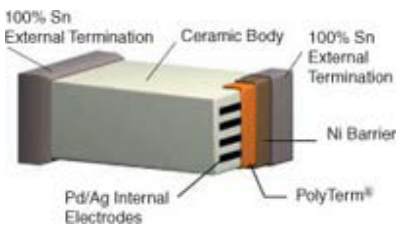
Large Size MLC Capacitors



Our large size MLC Capacitors have rated working voltages from 50 to 15,000 VDC, low ESR ceramic out-performs Tantalums, compact LMC designs smaller than film or disc and are available in custom sizes, voltages and values.

PolyTerm® Ceramic Capacitors



Standard MLCCs are prone to cracking due to mishandling, depanelization, and board flexing. In response to customer requests for higher resistance to mechanical stress, and as a result of continuous efforts to improve our products, JDI has introduced PolyTerm® termination ceramic capacitors to meet those customer requirements for increased resistance to flexure cracking. PolyTerm® is a conductive epoxy termination material loaded with silver, allowing it to absorb much more bending force than standard termination material. After termination PolyTerm® parts are nickel and tin plated using the same process as standard parts. There is no effect on solderability or capability to withstand the soldering process. PolyTerm® capacitors are ideal for use in telecom, power supply, inverter, and modem applications.