Medical and military applications where a high capacitance value is required should consider the Novacap branded MLCCs from Knowles Precision Devices (KPD). Comparable circuit designs can be achieved at typically a third to a fifth of the capacitance values because of the low ESR characteristics these parts exhibit.

These RoHS Compliant, High Capacitance value BME MLC chip capacitors, are manufactured in stable Class II dielectrics X7R and X5R. The range is offered with a spread of capacitance values starting at 6.8nF and topping out at 100μF. Because of the extremely low ESR characteristics they are ideal to replace Tantalum and Low ESR Electrolytic Capacitors without polarity concerns.

They find application as power supply bypass capacitors, smoothing capacitors, input/output filters in DC-DC Converters and in digital circuits and LCD modules. ±10% and ±20% capacitance tolerances are available. All parts are available with high reliability screening.

Nickel Barrier termination options include tin, tin/lead or gold flash - all suitable for reflow soldering process. The Gold Flash option is of particular interest to eliminate the problem of tin 'whiskering'. This issue has become prevalent because pure tin-plated terminations, brought in to comply with RoHS directives, allow tin whiskers to grow from surfaces and can cause electrical short-circuits and failures. This sort of failure can represent a clear and present danger especially to Hi-Rel applications such as medical implantable devices and military equipment.
Novacaps' gold flash termination has been developed for conductive epoxy or gold/indium solder attachment and consists of a 5 micro-inch minimum gold flash over a nickel barrier.

Ends

Note: Dielectric Laboratories (DLI), Novacap, Syfer Technology and Voltronics came together to form a single organisation, Knowles Precision Devices – they have now been joined by Johanson Manufacturing and Compex. This entity has a combined history exceeding 200 years and is a division of Knowles Corporation of USA, an independent publicly traded company.