MIT PASSIVEN IN DIE TECHNIK-ZUKUNFT

High Capacitance MLCCs Chip

A range of High Capacitance value BME MLC chip capacitors, in stable Class II dielectrics X7R and X5R, with a spread of capacitance values offered up to 100µF. 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.
As a consequence they are also 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. Parts are RoHS Compliant and suitable for reflow soldering process.

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.

High capacitance MLCCs for High-Rel medical and military applications from Novacap

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

Short data on the next pages.

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High Capacitance Chip – Capacitance values

	0402		0603		0805		1206		1210		1210		1812	
Tmax Inches mm	0,024 0,61		0,035 0,89		0,054 1,37		0,072× 1,83		0,085× 2,16		0,110× 2,79		0,110× 2,79	
Dielectric	**X7R**	**X5R**	**X7R**	**X5R**	**X7R**	**X5R**	**X7R**	**X5R**	**X7R**	**X5R**	**X7R**	**X5R**	**X7R**	**X5R**
4V				22µF*				100µF*						
6.3V	470nF	1µF 2,2µF* 4,7µF*		4,7µF 10µF*		22µF*		47µF*		47µF*	47µF*	100µF*		
10V		1µF	2,2µF	4,7µF 10µF*	10µF*	10µF	22µF*	22µF*		22µF*		47µF*		
16V	15nF 22nF 33nF 47nF 100nF 220nF	100nF 220nF 470nF	100nF 1µF	2,2µF 4,7µF	470nF 1µF 2,2µF 4,7µF*	4,7µF 10µF	10µF	10µF 22µF*	4,7µF* 10µF*			22µF*		
25V	6,8nF 10nF 47nF 100nF	10nF 220nF	470nF 1µF	220nF 470nF 1µF 2,2µF	1µF 2,2µF 4,7µF	2,2µF 4,7µF	2,2µF 4,7µF 10µF	4,7µF 10µF	3,3µF* 4,7µF	4,7µF* 10µF*	22µF*			
35V										2,2µF* 4,7nF*		10µF		
50V	10nF	100nF	220nF 470nF	100nF 470nF 1µF	220nF 470nF 1µF	220nF 470nF 1µF 2,2µF	470nH 1µF 2,2µF 4,7µF	4,7µF	1µF		4,7µF*	4,7µF* 10µF*		
100V			100nF		220nF		1µF		1µF 2,2µF				1µF 2,2µF	

× Denotes non standard chip thickness. Order code needs to have an X inserted together with the dimension in inches. * Denotes only available in 20% capacitance tolerance.

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Multilayer Ceramic Chip Capacitors

NIC COMPONENTS

FEATURES
- X7R, X6S, X5R AND Y5V DIELECTRICS
- HIGH CAPACITANCE DENSITY
- ULTRA LOW ESR & ESL
- EXCELLENT MECHANICAL STRENGTH
- NICKEL BARRIER TERMINATIONS
- RoHS COMPLIANT
- SAC SOLDER COMPATIBLE*

NMC High CV Series

Dielectric	X7R	X6S	X5R	Y5V
Capacitance Range	1.0µF - 47µF	1.0µF – 100µF	1.0µF – 220µF	1.0µF – 100µF
Capacitance Tolerance	10% & 20%	10% & 20%	10% & 20%	80% / -20%
Operating Temp.	-55°C - +125°C	-55°C - +105°C	-55°C - + 85°C	-30°C - + 85°C
Temperature Characteristics	+/- 15% Cap.	+/- 22% Cap.	+/- 15% Cap.	+22%, -82% Cap.

Ratend Voltages	4Vdc; 6,3Vdc, 16vdc, 25Vdc, 25Vdc, 35Vdc, 50Vdc & 100Vdc
Size	0402, 0603, 0805, 1206, 1210, 1812, 1825, 2220, 2225

Dielectric Withstanding Voltage	250% of Rated Voltage for 1 ~ 5 sec., 50mA max.	150% of Rated Voltage for 1 ~ 5 sec., 50mA max.
Test Conditions (EIA-198-2E)	C ≤ 10µF 1KHz, 1.0V ±0.2Vrms (ALC on) C > 10µF 120Hz, 0.5V ±0.2Vrms (ALC on)	1KHz, 1.0V ±0.1Vrms (ALC on)

Capacitance value stability over applied VDC is not assured for class II MLCC (X7R, X5R & Y5V) and it is suggested to consider to use NPO MLCCs Ceramic Capacitors, Film Capacitors or Electrolytic Capacitors for applications where stability in capacitance value, over applied VDC, is performance requirement.

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High Capacitance Capacitor Series FS

PDC

Dielectric	X7R	X7S	X6S	X5R	Y5Y
Size	0402 to 2225	0402 to 1210	0201 to 1210	0201 to 1210	0402 to 1812
Capacitance range	1µF to 47µF	1µF to 100µF	1µF to 100µF	1µF to 220µF	1µF to 100µF
Capacitance tolerance	K (10%), M (20%)				(-20%/+80%)
Voltage (WVDC)	6,3V to 630V	6,3V to 100V	6,3V to 50V	4V to 50V	6,3V to 100V
Operating Temp.	-55°C to +125°C		-55°C to +105C	-55°C to +85°C	-25°C / +85°C
Capacitance characteristic	+/-15%	+/-22%	+/-22%	+/-15%	+30%/+80%
Termination	Cu or Ag/Ni/Sn or Au (lead-free termination				

wts // electronic ist Ihr Partner für MLC CAPACITORS

Industry Standard X7R / COG	**Automotive Grade AEC-Q200**
High Power to 12KV	**High Temperature to 200°C**
Big Sizes 0402 to 8060	**High Q Capacitors**
250Vac Safety Capacitors	**Non-Magnetic Capacitors**
Stacki Cap	**Capacitor Assemblis**
Open Mode and Tandem –X7R	**Radial Leaded Capacitors**

Impressum

wts // electronic components GmbH, Langer Acker 28, 30900 Wedemark

Telefon +49 (0)5130 / 58 45 0 Telefax +49 (0)5130 / 37 50 55 www.wts-electronic.de info@wts-electronic.de