

Enhanced Safety Surface Mount MLCCs

Our Enhanced Safety Certified Surface Mount MLCC product line is tested to meet international safety standards:

IEC/EN 60384-14 : 2023 + A1:2016 class Y2/X1/X2 and UL/CAN/CSA60384-14:2014. Range qualified to AEC-Q200.

Knowles Safety Certified capacitors comply with international UL and IEC/EN specifications, with certification by UL, cUL and TUV, and offer the benefits of a lower profile and less board space. They are available in case sizes 1808, 1812, 2211, 2215, 2220 and 2720 and all are available with the option of FlexiCap™ termination to reduce the risk of mechanical cracking. All parts have a CTI ≥ 600 , allowing us to offer the SYS range with an even smaller platform suitable for use in equipment within the scope of IEC 62368.

Whether it's AEC-Q200 standards, modems, AC-DC power supplies or applications where lightning strike or other voltage transients represent a threat to electronic equipment, our Safety Certified capacitors allow us to meet a variety of demands. Talk to us today to find out how we can meet yours.

SYX/UYX/SYM/UYM FAMILY – Y2 (250VAC-500VAC)/X1 (305VAC-500VAC) 5KV IMPULSE



Applications	<ul style="list-style-type: none"> • High voltage battery systems within electric vehicles • Three-phase systems requiring 305Vac or higher voltage • Industrial and domestic equipment where safety is critical • Plug-in power supplies 	
Benefits	<ul style="list-style-type: none"> • Up to 12 nF • Class Y2/X1 safety capacitors, including Humidity Robustness Grade IIIB • Guaranteed 5mm min creepage for case size 2720, mandatory for $\geq 250\text{Vac}$ class Y2 and $\geq 305\text{Vac}$ Class X1 full certification • Guaranteed 4mm min creepage for other case sizes, mandatory for 250Vac Class Y2 certification • SYM/UYM incorporate open-mode internal design 	<ul style="list-style-type: none"> • Humidity Robustness Grade IIIB as per EN 60384-14 Annex I • 5kV impulse • Up to 1.5kVDC certified per EN60384-14 Annex H • Components are 100% DWV tested to $\geq 4\text{kV}$ • AQL tested to $\geq 4\text{kVDC}$ and 3000Vac 60s — ideal for high voltage battery systems • Unmarked (UYX/UYM) components available with additional $\geq 2500\text{Vdc}$ rating (not safety certified) • Case sizes: 1808, 1812, 2211, 2215, 2220 & 2720

SYS/UYS FAMILY – Y2 (250VAC)/X1 (305VAC) 5KV IMPULSE



Applications

- Applications within the scope of IEC 62368. Ref: EN 60384-14, clause 4.8.1.3
- Ideal for use within ICT and AV equipment

Benefits

- Up to 3.9nF
- SYS family offers class X1/Y2 safety capacitors, including Humidity Robustness Grade III
- 1kVDC certified
- Unmarked components can be offered with an additional 2500VDC rating with suffix UYS
- Components are 100% DWV tested at 3000VDC
- CTI ≥ 600
- AQL tested to 3225VDC and 2110Vac 60s
- Reduced size compared to SYX
- Case sizes: 1808 and 1812

S3X/U3X FAMILY – X2 (305VAC) 2500V IMPULSE



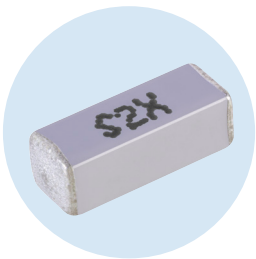
Applications

- Industrial Switchgear and control systems
- 3-phase systems requiring higher voltage ratings
- Domestic circuit breakers

Benefits

- Up to 56nF
- S3X family offers class 305Vac X2 safety capacitors
- 2.5kV impulse and a 1kVDC rating
- Unmarked components can be offered with an additional 1500VDC rating with suffix U3X
- 1kVDC qualified
- Components are 100% DWV tested at 3000VDC
- CTI ≥ 600
- AQL tested to 3225VDC and 1500Vac 60s
- Case size: 2220

S2X/U2X FAMILY – X2 (250VAC) 2500V IMPULSE



Applications

- Industrial Switchgear and control systems
- Domestic circuit breakers

Benefits

- Up to 10nF
- S2X family offers class 250Vac X2 safety capacitors, including Humidity Robustness Grade III
- 2.5kV impulse and a 1kVDC rating
- 1kVDC qualified
- Components are 100% DWV tested at 3000VDC
- CTI ≥ 600
- AQL tested to 3225VDC and 1500Vac 60s
- Case size: 1808 and 1812