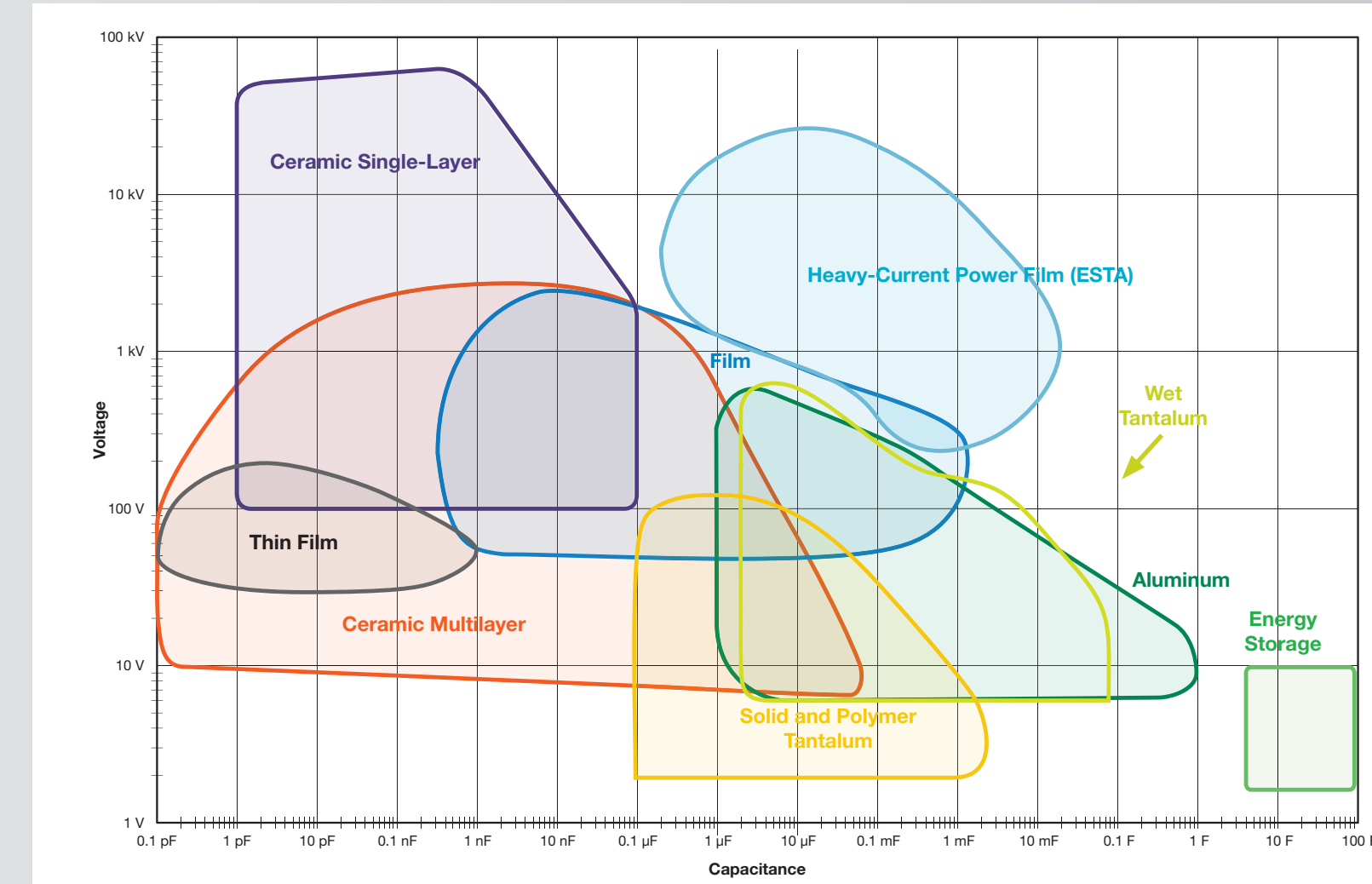




The Art of Capacitors

RFCS High-Frequency (Up to 20 GHz) 50 V 0.1 pF to 27 pF S-parameters available	NC Wire Bondable, Thin Film 200 V 0.5 pF to 1000 pF 0.020" x 0.020" to 0.060" x 0.060"	A...R and K...R High Operating Temperature of +160 °C 50 V _{DC} to 200 V _{DC} 100 pF to 1 µF Automotive Grade C0G, X7R	K...H High Operating Temperature of +175 °C 50 V _{DC} to 200 V _{DC} 100 pF to 1 µF Automotive Grade C0G, X0U	VY1 – Compact Size X1 / Y1 Safety Capacitor 760 V _{DC} (X1) / 500 V _{DC} (Y1) 470 pF to 4.7 nF 10 kV pulsed tested 85/85/1000 h	VY2 X1 / Y2 Safety Capacitor 440 V _{DC} (X1) / 300 V _{DC} (Y2) 10 pF to 10 nF Halogen-free	AY2 X1 / Y2 Safety Capacitor for Automotive 440 V _{DC} (X1) / 300 V _{DC} (Y2) 10 pF to 10 nF Automotive Grade	440L X1 / Y1 Safety Capacitor 760 V _{DC} (X1) / 500 V _{DC} (Y1) 10 pF to 20 nF Unique in the market: 10 nF and 20 nF Y1	615R High Dielectric Strength 10 kV _{DC} to 20 kV _{DC} 100 pF to 3.3 nF Up to 20 kV rated voltage	HIK High Dielectric Strength 15 kV _{DC} 100 pF to 1.5 nF Compact size	715C Extreme Dielectric Strength 10 kV _{DC} to 50 kV _{DC} 140 pF to 8 nF Screw terminal mounting	RF Power Plates High Power Levels 2 kV _{DC} to 30 kV _{DC} 5.6 pF to 27 nF Maximum current up to 125 A _{RMS}	Water Cooled Extremely High Power Levels 10 kV _{DC} to 27 kV _{DC} 100 pF to 10 nF Maximum current up to 350 A _{RMS}	Voltage Multipliers Fully Assembled Solution Up to 19 kV _{DC} per disc 125 pF to 2.2 nF per disc Highly customizable	CS201, TCN, MCN Offered with X7R or C0G (NP0) Capacitors 50 V 33 pF to 0.1 µF Custom schematics available	High-Frequency 0402, 0603, 0805 0.1 pF to 1500 pF Tolerance as tight as ± 0.05 pF Operating temperature up to 200 °C Ultra-high Q
Quad High-Frequency 0505, 1111, 2525, 3838 200 V to 7200 V 0.1 pF to 5100 pF Ultra-high Q 0505 and 1111 operating temperature up to 200 °C	Military Grade MLCCs CDR (MIL-PRF-55681) DSCC CDR: 50V, 100V DSCC: 0402, 0603, 0805, 1206 High-frequency DSCC	Space Grade MLCCs MIL-PRF-123 From 0805 to 2225 100% acoustic scanned 100% hot IR (125 °C)	Non-Mag. MLCCs Screened for Non- Magnetic Properties 10 V to 3000 V 1.0 pF to 6.8 µF 0402 to 3640 Reflow and conductive epoxy assembly	Surface-Mount Safety X1 / Y2 and X2 250 V _{DC} 10 pF to 12 nF IEC 60384-14	Automotive Grade MLCCs AEC-Q200 Qualified RoHS Compliant: VJ...31X Green: GA...34G 0402 to 1812, 1 pF to 1 µF Matte tin, polymer, and AgPd	Commercial MLCCs Polymer Termination Option 10 V to 1000 V 1.0 pF to 6.8 µF 0402 to 3640	HVArc Guard® Protects Against Surface Arc-Over 250 V to 2500 V 10 pF to 270 nF 0805 to 2225	High-Voltage MLCCs Polymer Termination Option 200 V to 5000 V 10 pF to 1.8 µF Open mode design Parts for reflow and conductive epoxy assembly	Source Energy High Pulse Discharge Current 1000 V to 1500 V 33 nF to 560 nF 1812 to 4044	CDC Low Electrostrictive Ceramic 1000 V to 1500 V 33 nF to 560 nF Integrated 500 MΩ resistor	Basic Commodity C0G (NP0), X5R, X7R, Y5V 6.3 V to 100 V 0.5 pF to 100 µF 0402 to 1210	0201 and Arrays C0G (NP0), X5R, and X7R Dielectrics 6.3 V to 50 V and 16 V, 50 V 0.5 pF to 220 nF and 10 pF to 100 nF 4 capacitors in 0612 size	TM3 – Medical High-Reliability, Weibull Grading Options 4 V _{DC} to 20 V _{DC} 1 µF to 220 µF Certified to medical standard ISO 13485	TR3 – Low ESR 100 % Surge Current Tested 4 V _{DC} to 63 V _{DC} 0.47 µF to 1000 µF Seven case codes	TP3 – Automotive AEC-Q200 Qualified 4 V _{DC} to 50 V _{DC} 0.10 µF to 470 µF Low ESR and 100 % surge current tested
TH5 – HI-TMP® Application Voltage: 21 V / 24 V at +200 °C 21 V _{DC} 24 V _{DC} 4.7 µF, 10 µF 500 h continuous operation	TL3 – Very Low DCL DC Leakage at 0.005 CV 4 V to 50 V 0.1 µF to 470 µF Improved reliability: 0.50 %, 1000 h, 85 °C, rated voltage	T83 – Hi-Rel COTS High-Reliability 4 V _{DC} to 63 V _{DC} 0.1 µF to 100 µF Weibull grading and surge current test options	TM8 Hi-Rel: Medical and Military Qualified Tantalum Capacitor 2 V _{DC} to 40 V _{DC} 0.68 µF to 47 µF Military and medical qualification	TP8 Automotive: Compact AEC-Q200 Qualified Tantalum Capacitors 6 V _{DC} to 40 V _{DC} 1 µF to 1500 µF Small sizes include 0603 footprint	597D Industrial Grade: Robust Designs with Ultra-Low ESR 4 V _{DC} to 75 V _{DC} 10 µF to 1500 µF Designed for industrial and military use	T54 Military: High Reliability Polymer Capacitors 16 V _{DC} to 75 V _{DC} 10 µF to 470 µF High reliability	T55 General Purpose: Industrial Grade Polymer Capacitors 2.5 V to 10 V 3.3 µF to 330 µF Molded body with lead frame terminations	T58 MicroTan: Compact Polymer Capacitors 4 V _{DC} to 25 V _{DC} 10 µF to 330 µF Small size	T59 High Energy: Maximum Capacitance and Volt- age Polymer Capacitors 16 V _{DC} to 75 V _{DC} 10 µF to 470 µF High-capacitance, high-voltage	HE5 / EP1 High-Energy Wet Tantalum Capacitor 25 V _{DC} to 125 V _{DC} 1100 µF to 72 000 µF Highest CV design	T16 and T18 Enhanced Performance Wet Tantalum 25 V _{DC} to 125 V _{DC} 10 µF to 1800 µF High shock and vibration capable	ST and STE Extended Capacitance Wet Tantalum 10 V _{DC} to 125 V _{DC} 10 µF to 10 000 µF DLA drawings S3026 and 10004	134D and 135D +200 °C Tantalum Case Wet Tantalum 6 V _{DC} to 125 V _{DC} 1.7 µF to 2200 µF	T22 SMD Wet Tantalum Capacitor with Metal Case and Hermetic Sealing 10 µF to 68 µF 50 V _{DC} to 125 V _{DC}	T25 SMD Solid Tantalum Capacitor with Metal Case and Hermetic Sealing 22 µF to 330 µF 16 V _{DC} to 50 V _{DC}
MKP1848C High-Density DC-Link Capacitor 500 V _{DC} to 1200 V _{DC} 2 µF to 500 µF Economic pack; more µF for mm³	MKP1848S Slim DC-Link: Low Building Height 500 V _{DC} to 1000 V _{DC} 100 µF to 100 µF Building heights of 12 mm, 15 mm, 18 mm, 24 mm	MKP1848 High-Performance DC-Link 450 V _{DC} to 1200 V _{DC} 1 µF to 100 µF AEC-Q200 qualified DC-Link	MKP386M Snubber for Direct IGBT Mount 700 V _{DC} to 2500 V _{DC} 2 µF to 100 µF Multiple terminal configurations	MKP1847 AC Filter with Segmented Film 230 V _{DC} to 440 V _{DC} 1 µF to 70 µF Safe AC filtering for UPS systems	MKP385 Pulse and High- Frequency Capacitor 160 V _{DC} to 2500 V _{DC} 0.00047 µF to 82 µF High RMS current capabilities	MKP1839HQ Axial AC and Pulse Capacitor 630 V _{DC} to 1600 V _{DC} 0.1 µF to 3.3 µF High-current and high-frequency	F339X1 330 RFI Across the Line X1 330 V _{DC} 0.001 µF to 2.2 µF Designed to withstand pulse loads	F339X1 480 RFI Across the Line X1 480 V _{DC} 0.001 µF to 1.0 µF Designed for high stability	F1772 RFI Across the Line X2 310 V _{DC} 0.01 µF to 2.2 µF Designed for series impedance	F1772S RFI Across the Line X2 310 V _{DC} 2.2 µF Series impedance: 85 °C, 85 % RH	F1773 RFI Across the Line X2 Axial 253 V _{DC} 0.001 µF to 2.2 µF Low building height applications	MKP339X2 RFI Across the Line X2 AEC-Q200 310 V _{DC} 47 µF to 680 µF Automotive Grade X2 safety	MKP338 6 Y2 RFI Across the Line Y2 AEC-Q200 300 V _{DC} 0.001 µF to 0.47 µF Automotive Grade Y2 safety	MKT1820 AEC-Q200 DC Filter Automotive 63 V _{DC} to 1000 V _{DC} 0.00088 µF to 15 µF Operating temperature to 125 °C	MKT37x General Purpose DC Capacitor 50 V _{DC} to 630 V _{DC} 0.00088 µF to 15 µF AEC-Q200 qualified
MKT1813 General Purpose Axial Capacitor 63 V _{DC} to 1000 V _{DC} 0.00047 µF to 22 µF Low building height applications	KP1830 Precision Film, Foil Capacitor 63 V _{DC} to 630 V _{DC} 100 pF to 22 nF High pulse capabilities	MKP1839 Precision Axial Capacitor 160 V _{DC} to 630 V _{DC} 47 pF up to 22 µF Low building height applications	142 RHS Useful Life Up to 2500 h at 105 °C 10 V to 450 V 15 pF to 22 nF High CV product	146 RT1 / 246 RT1-V Useful Life Up to 6000 h at 125 °C 16 V to 63 V 68 µF to 6800 µF Low Z, AEC-Q200 qualified Vibration improved up to 50 g	160 RLA Useful life up to 2000 h at 150 °C 16 V to 50 V 33 µF to 3300 µF Low Z, AEC-Q200 qualified	152 RMH Useful Life Up to 4000 h at 105 °C 200 V to 450 V 1.5 µF to 220 µF High-voltage, AEC-Q200 qualified	150 CRZ / 250 CRZ-V Useful Life Up to 10 000 h at 105 °C 6.3 V to 100 V 4.7 µF to 10 000 µF Very low Z, AEC-Q200 qualified Vibration improved up to 30 g	146 CT1 / 246 CT1-V Useful Life Up to 6000 h at 125 °C 16 V to 100 V 10 µF to 4700 µF Low Z, AEC-Q200 qualified Vibration improved up to 30 g	160 CLA / 260 CLA-V Useful Life Up to 2000 h at 150 °C 16 V to 80 V 47 µF to 3300 µF Low Z, AEC-Q200 qualified Vibration improved up to 30 g	138 AML Useful Life Up to 10 000 h at 105 °C 6.3 V to 100 V 2.2 µF to 15 000 µF High CV product	118 AHT Useful Life Up to 8000 h at 125 °C 6.3 V to 200 V 4.7 µF to 10 000 µF High CV product	120 ATC Useful Life Up to 8000 h at 125 °C 16 V to 100 V 47 µF to 6800 µF High ripple current, low Z	096 PLL-4TSI 4-Terminal Snap-In 350 V to 500 V 390 µF to 2700 µF Useful life ≥ 5000 h at 85 °C	157 PUM-SI Useful Life of 5000 h at 85 °C 200 V to 500 V 47 µF to 1800 µF Custom designs available on request	159 PUL-SI Useful Life Up to 5000 h at 105 °C 200 V to 500 V 56 µF to 1800 µF Low ESR, high ripple current capability
101 / 102 PHR-ST Useful Life Up to 15 000 h at 85 °C 25 V to 450 V 220 µF to 1 F Custom designs available on request	104 PHL-ST Useful Life Up to 5000 h at 105 °C 200 V to 450 V 150 pF to 33 000 µF Ultra-high reliability	196 HVC ENYCAP™ Energy Storage Capacitor 1.4 V to 9.6 V 4.0 F to 80.0 F High capacity and energy density	220 HVC ENYCAP™ Energy Storage Capacitor 2.7 V 15 F to 40 F High capacity and energy density	LVAC PhMKP Tubular Dry or Oil-Filled; IP00, IP20; Low Height, Slim Diameter Up to 1000 VAC _{RMS} Up to 37 kvar and 3 x 219 µF (star) LT > 150 000 h	LVAC PhMKP Tri 50 kvar in Low-Height Dry Design Up to 1000 VAC _{RMS} Up to 450 kvar and 3 x 1700 µF (star) LT > 150 000 h	LVAC PhMKP Rect Dry or Oil-Filled Up to 1000 VAC _{RMS} Up to 450 kvar and 3 x 1700 µF (star) LT > 150 000 h	HVAC One-Phase, One-Bushing 1 kV to 24 kV 50 kvar to 800 kvar	HVAC One-Phase, Two-Bushing 1 kV to 24 kV 50 kvar to 800 kvar	HVAC Three-Phase, Three-Bushing 1 kV to 7.2 kV 50 kvar to 800 kvar	PEC – DCMKP Metalized PP, SH, Dry 750 V _{DC} to 10 kV _{DC} 50 µF to 2.235 mF	PEC – HDMKP Metalized PP, SH, Dry 900 V _{DC} to 2.7 kV _{DC} 40 µF to 2.235 mF				



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DIELECTRIC

- Thin Film
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- Aluminum
- Ceramic Single-Layer
- Wet Tantalum
- Heavy-Current Power Film (ESTA)
- Ceramic Multilayer
- Film
- Energy Storage



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