



Surface Mount Multilayer Ceramic Capacitors

KC-LINK DC Link

Electronic Components
KEMET
CHARGED®

Why Choose KEMET

KEMET Electronics Corporation is a leading global supplier of electronic components. We offer our customers the broadest selection of capacitor technologies in the industry, along with an expanding range of electromagnetic compatibility solutions and supercapacitors. Our vision is to be the preferred supplier of electronic component solutions for customers demanding the highest standards of quality, delivery and service.

Features & Benefits

- AEC-Q200 automotive qualified
- Very high ripple current capability
- Extremely low equivalent series resistance (ESR)
- Extremely low equivalent series inductance (ESL)
- Operating temperature range of -55°C to $+150^{\circ}\text{C}$
- High frequency operation ($> 10\text{ MHz}$)
- No capacitance shift with voltage
- No piezoelectric noise
- High thermal stability
- RoHS compliant and Pb-free

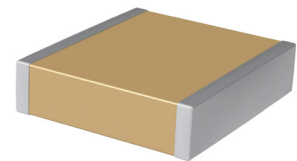
Product Focus

- Miniaturization enabling higher power densities
- Allowing higher system switching frequency
- Increased power conversion efficiency
- Reduced ringing due to high frequency switching
- Less cooling requirements
- Pb-free reflow capable assembly

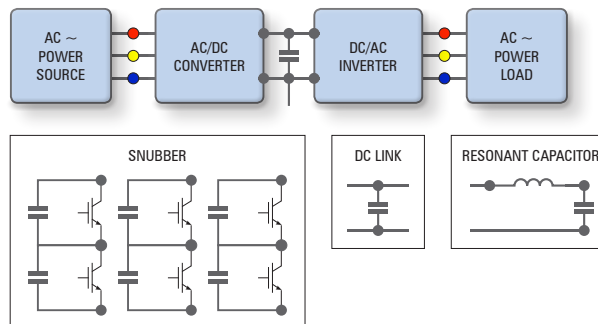
For more information, samples and engineering kits, please visit us at www.kemet.com or call 1.877.myKEMET.

Applications

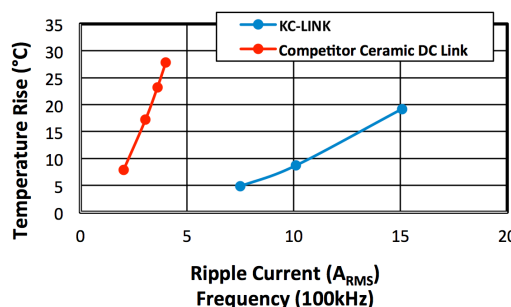
- Wide bandgap (WBG), silicon carbide (SiC) and gallium nitride (GaN) systems
- EV/HEV (drive systems, charging)
- Wireless charging
- Photovoltaic systems
- Power converters
- Inverters
- LLC resonant converters
- DC link
- Snubber



Application Topology

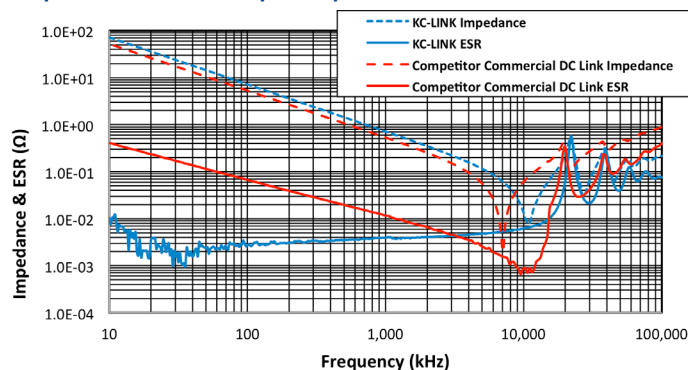


High Ripple Current Capability



Low Self Heating

Impedance vs. Frequency



Low ESR



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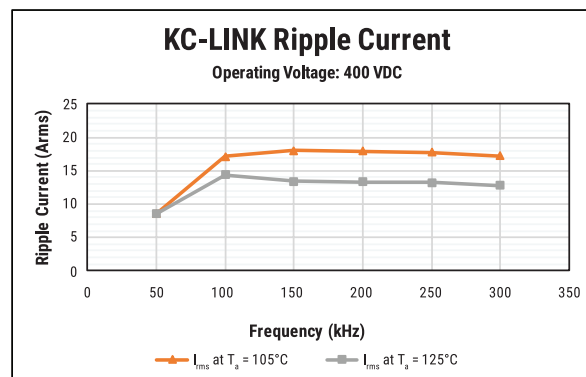
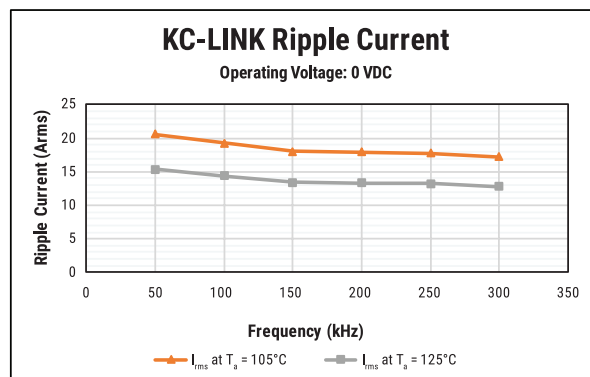


Typical Performance

Frequency	Typical ESR @ 25°C	Typical ESL @ 25°C	Rth ²	Typical Ripple Current (A _{rms}) ¹			
				Operating Voltage = 0 V		Operating Voltage = 400 V	
				T _a = 105°C	T _a = 125°C	T _a = 105°C	T _a = 125°C
50 kHz	< 4.0 mΩ	1 nH	15°C/W	20.6	15.4	8.6	8.6
100 kHz				19.3	14.4	17.1	14.4
200 kHz				17.9	13.4	17.9	13.4
300 kHz				17.2	12.8	17.2	12.8

¹T_a = Ambient temperature during ripple current measurements. Ripple current measurements performed with a peak capacitor temperature of 150°C. Samples mounted to heat sink with no forced air cooling.

²Rth = Thermal resistance of KC-LINK 3640 224 nF 500 V capacitor.



KC-LINK Range

Capacitance	Cap Code	Case Size					1812					2220					3640				
		Rated Voltage (VDC)					650					500					500				
		Capacitance Tolerance					Under Development					Currently Available					Currently Available				
4.7 nF	472	F	G	J	K																
5.6 nF	562	F	G	J	K																
6.8 nF	622	F	G	J	K																
8.2 nF	682	F	G	J	K																
10 nF	103	F	G	J	K																
12 nF	123	F	G	J	K																
15 nF	153	F	G	J	K																
18 nF	183	F	G	J	K																
22 nF	223	F	G	J	K																
33 nF	333	F	G	J	K																
39 nF	393	F	G	J	K																
47 nF	473	F	G	J	K																
56 nF	563	F	G	J	K																
68 nF	683	F	G	J	K																
82 nF	823	F	G	J	K																
100 nF	104	F	G	J	K																
150 nF	154	F	G	J	K																
180 nF	184	F	G	J	K																
220 nF	224	F	G	J	K																
470 nF	474	F	G	J	K																