INDUSTRY

Embedded Controllers

Electronic Components
KEMET
CHARGED.

Why Choose KEMET

KEMET 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 electromechanical devices, 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.

Trends

- CPU enhancements
- Low power
- Weight reduction
- Thinner

Circuit Conditions

- Input voltage of 12 VDC
- CPU voltage of 0.9 – 1.05 VDC
- Off-chip memory storage voltage of 1.5 VDC
- Input/output and USB voltage of 3.3 – 5 VDC

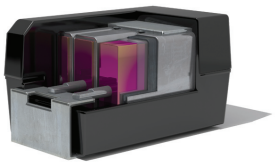
Capacitor Requirements

- Long life
- Lower profile
- High reliability
- Low ESR
- High voltage

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

Applications

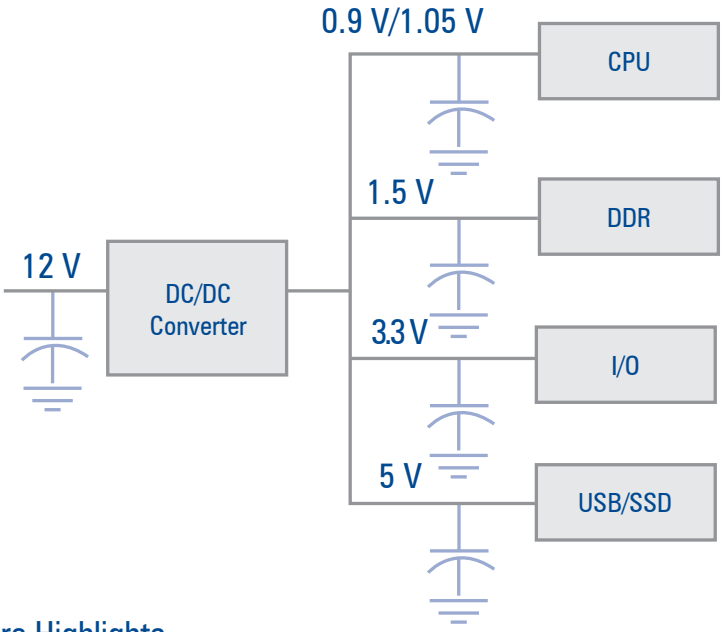
- High speed servers
- DC/DC converters
- Decoupling
- Portable electronics
- Defense and aerospace
- Microprocessors
- High ripple current application



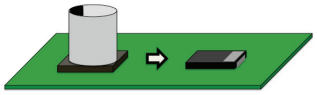
Polymer Capacitors

Overview

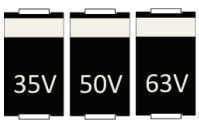
Embedded controllers are available in a range of form factors for various application areas. Regardless of the form factor, they are all powered by a large supply voltage which needs to be converted down to the low voltage rails of the controller. In low profile applications, polymer capacitors offer high capacitance in a reduced footprint. When board space is not at a premium, X7R ceramic capacitors can be utilized. Both polymer and X7R capacitors can be combined with KEMET's C0G ceramics for high frequency decoupling.



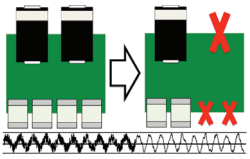
Feature Highlights



Low Profile



Higher Voltage Options



Low ESR Low ESR/ESL

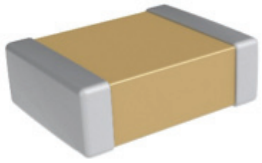
INDUSTRY

Embedded Controllers

Electronic Components
KEMET
CHARGED.

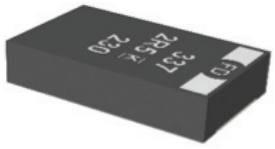
KEMET Products

Product Family	KEMET Series	Voltage	Capacitance	Form Factor
High Frequency/Low Inductance				
Multilayer Ceramic	C0G, X7R	6.3 – 250 V	10 pF – 47 µF	Surface Mount
Low ESR Polymer	T520, T521	Up to 63 V	Up to 330 µF	Surface Mount
Low ESR/Inductance Polymer	T528	2 – 10 V	33 µF – 470 µF	Facedown Surface Mount
Low ESR/High Reliability				
Low ESR Polymer	T520, T521	Up to 63 V	Up to 330 µF	Surface Mount
Low ESR/Inductance Polymer	T528	2 – 10 V	33 µF – 470 µF	Facedown Surface Mount



C0G, X7R

T520, T521



T528

Frequently Selected Part Numbers

Application	Series	Part Number	Capacitance (µF)	Voltage (VDC)	ESR (mΩ)	ESL (nH)	Ripple (A_{rms})	Case Size
12V Input	**T521**	T521D107M016ATE050	100	16	50	1.8	2.1	7343-31
12V Input	**T521**	T521X337M016ATE025	330	16	25	1.8	3.1	7343-43
CPU	**T520**	T520V477M2R5ATE006	470	2.5	6	1.8	5.6	7343-19
CPU	**T528**	T528Z477M2R5ATE005	470	2.5	5	0.5	8.1	7343-17
CPU	**T528**	T528B277M002ATE005	270	2	5	0.5	3.9	3528-20
CPU	**T520**	T520D108M2R5ATE006	1000	2.5	6	1.8	5.9	7343-30
I/O USB/SSD	**T520**	T520B227M006ATE025	220	6.3	25	1.2	2.3	3528-20
I/O USB/SSD	**T520**	T520B157M006ATE035	150	6.3	25	1.8	2.3	3528-20
I/O USB/SSD	**T520**	T520V477M006ATE035	470	6.3	35	1.8	2.3	7343-20

RoHS
Pb Lead-free
HF Halogen Free