



Smart Meter 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

- Energy conservation
- Real time monitoring
- Longer life time
- Wireless connectivity

Circuit Conditions

- High humidity
- Working temperature of 10°C to 35°C
- Approximately 10 to 15 years of operational life
- Hold-up bank

Capacitor Requirements

- Long life
- Low ESR and ESL
- Input/output voltage of 12 – 24 V/ 1.05 – 5 V
- Hold-up to 1500 μ F

Applications

- AC series power supply
- EMI/RFI suppression
- Portable electronics
- Decoupling
- Microprocessors
- High ripple current application



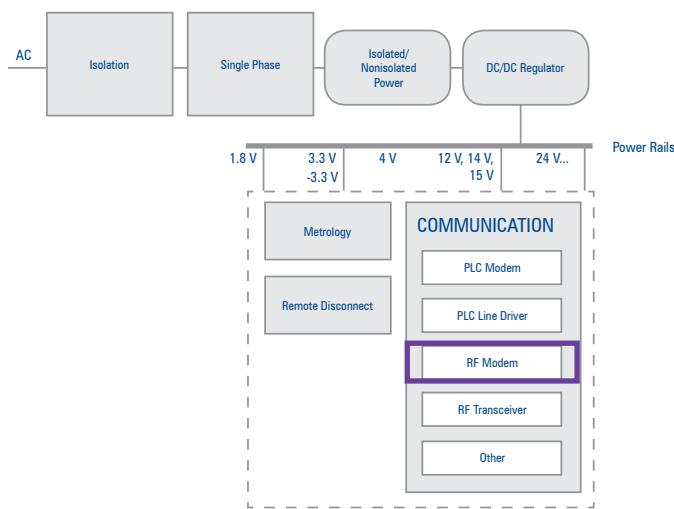
Polymer Capacitors

Overview

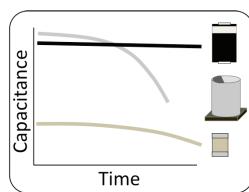
Smart meters have expected operational lifetime of 10 to 15 years once installed. As a result, components with long life and virtually no-wear out mechanism in high humidity environments are required.

After AC coupling, internal smart meter power rails can range from 1.8 V to 24 V. KEMET T521 High Voltage Polymer capacitors are well-suited for bulk decoupling on these high voltage DC rails. With no electrolyte to wear-out, T521 devices will provide long operational life.

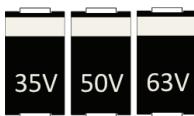
Hold-up energy reserves for RF modem (and power loss situations) can be provided by either a KEMET Supercapacitor (EDLC) or T520 Polymer capacitor, depending on the height available. These same high energy capacitors can also be used to provide peak current to the RF modem during communication.



Feature Highlights



Long Life and Stable Capacitance



Higher Voltage Options

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



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KEMET Products

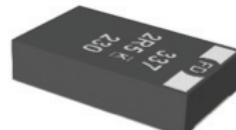
Product Family	KEMET Series	Voltage (VDC)	Capacitance	Form Factor
High Frequency/Low Inductance				
Multilayer Ceramic	X5R	4 – 50	0.01 μ F – 100 μ F	Surface Mount
	X7R	6.3 – 250	10 pF – 47 μ F	Surface Mount
Low ESR Polymer	T520, T521	Up to 63	Up to 330 μ F	Surface Mount
Low ESR/Inductance Polymer	T528	2 – 10	33 μ F – 470 μ F	Facedown Surface Mount
Electric Double-Layer Capacitors	HVZ	2.5 and 2.7	Up to 200 F	Snap-in
Low ESR/High Reliability				
Polymer	T520, T521	Up to 63	Up to 330 μ F	Surface Mount
Low ESR/Inductance Polymer	T528	2 – 10	33 μ F – 470 μ F	Facedown Surface Mount



X5R, X7R



T520, T521



T528



HVZ

Frequently Selected Part Numbers

Series	Part Number	Capacitance (μ F)	Voltage (VDC)	ESL (nH)	ESR (m Ω)	Ripple (A_{rms})	Case Size
T520	T520B227M006ATE035	220	6.3	1.8	35	1.9	3528-20
T520	T520H158M006ATE055	1500	6.3	1.8	55	1.8	7260-20
T520	T520V477M2R5ATE006	470	2.5	1.8	6	5.6	7343-19
T521	T521X476M035ATE030	47	35	1.8	30	2.9	7343-43
T521	T521V686M016ATE050	68	16	1.8	50	1.9	7343-20
T528	T528Z477M2R5ATE005	470	2.5	0.5	5	8.1	7343-17

