



Switch Mode Power Supply *SMPS capacitors*

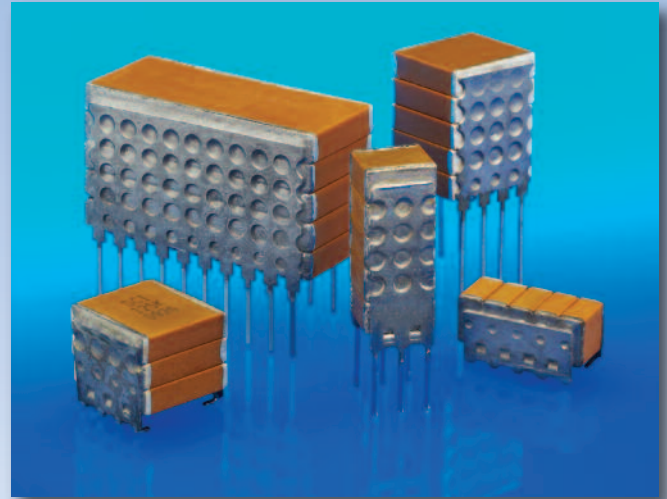
Spectrum Advanced Specialty Products offers a line of SMPS capacitors designed to provide superior performance in high frequency switching applications. These capacitors are ideal for high energy density products found in both military and commercial markets.

- Mil-PRF-49470 Qualified, DSCC 87106 and custom product available
- Leaded parts safeguard against thermal and mechanical stresses
- Capacitance values to 0.01 μF to 47 μF

Spectrum's high-speed Switch Mode Power Supply capacitors have the following characteristics when compared to other capacitive elements:

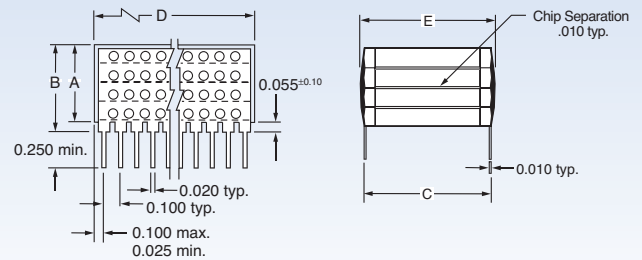
- Lower Equivalent Series Resistance (ESR)
- Lower Equivalent Series Inductance (ESL)
- Lower ripple voltage and less self heating

See graphs on side 2 for reference

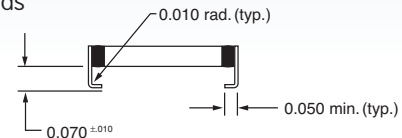


Physical Characteristics

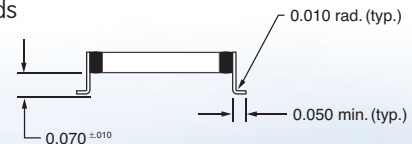
"N" Style Leads



"J" Style Leads



"L" Style Leads



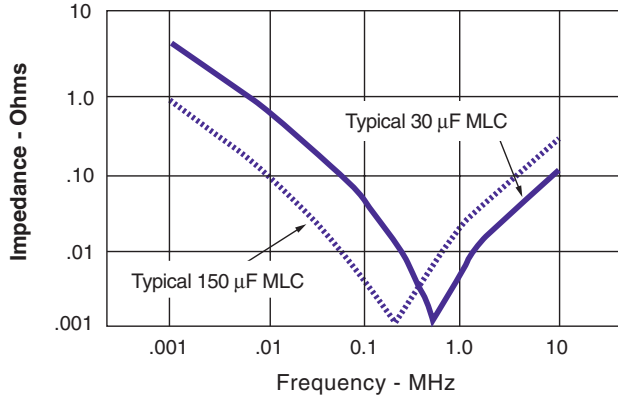
* Dimensions are in inches

Style/Size	Dimensions					
	A max	B max	C $\pm 0.025"$	D $\pm 0.025"$	E max	Leads/Side
SMP-3 (in)	0.650	0.715	0.450	1.050	0.500	10
(mm)	16.50	18.16	11.42	26.65	12.69	
SMP-4 (in)	0.650	0.715	0.400	0.400	0.440	4
(mm)	16.50	18.16	10.15	10.15	11.17	
SMP-5 (in)	0.650	0.715	0.250	0.250	0.300	3
(mm)	16.50	18.16	6.35	6.35	7.62	

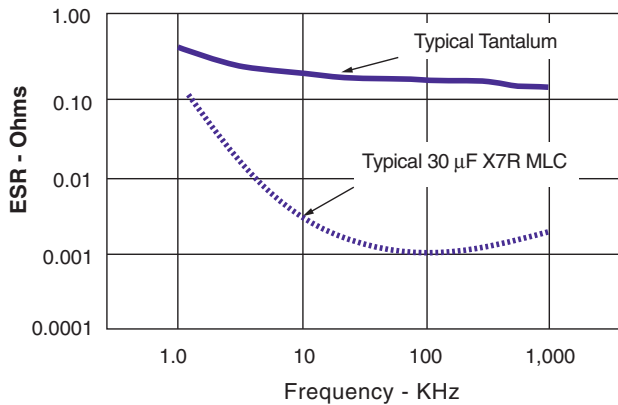


SMPS capacitors

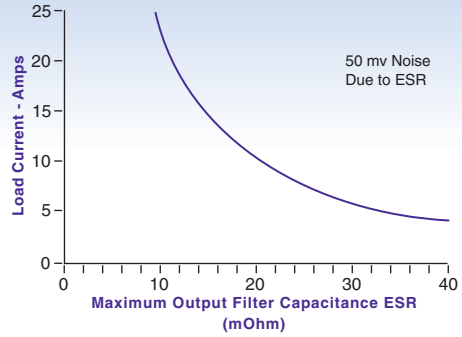
Impedance vs. Frequency



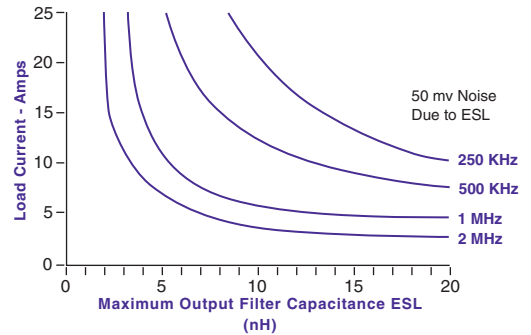
ESR vs. Frequency



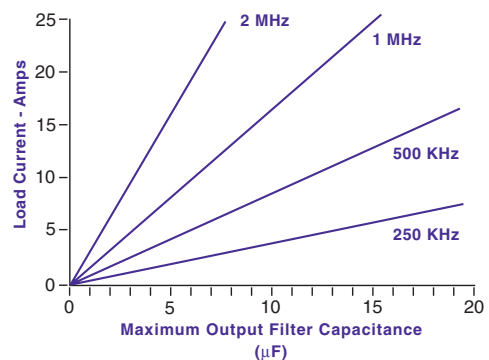
Absolute Maximum Capacitance ESR
Assuming no ESL - Capacitive Induced Ripple



Absolute Maximum Capacitance ESL
Assuming no ESR - Capacitive Induced Ripple



Absolute Maximum Output Capacitance
Assuming no ESL and no ESR



SMPS Part Numbering System Example: SMP3X124KENMB00

The part number shown represents a size 3 SMPS capacitor. The ceramic type will be BX, capacitance value is 120,000 pF, with a tolerance of ±10%. The voltage rating is 500 VDC, termination will be "N" style leads and the parts will receive marking/ bulk packaging.

SMP3	X	124	K	E	N	M	B	00
Case Size	Ceramic Code	EIA Cap Code	EIA Cap Tolerance	Voltage Rating	Termination	Marking	Packaging	Special Requirements
SMP3 SMP4 SMP5	B: X7R P: BP Q: BQ R: BR X: BX	Example: 120,000 pF	J: ±5% K: ±10% M: ±20%	Z: 25 VDC A: 50 VDC B: 100 VDC C: 200 VDC E: 500 VDC	J: Leads in L: Leads out N: Leads straight	M: Marked U: Unmarked	B: Bulk T: Tape & Reel	00: Standard XX: Custom HR: Hi-Rel*

* HR: Hi-Rel designation reflects MIL-PRF-49470, level B, QPL approval



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