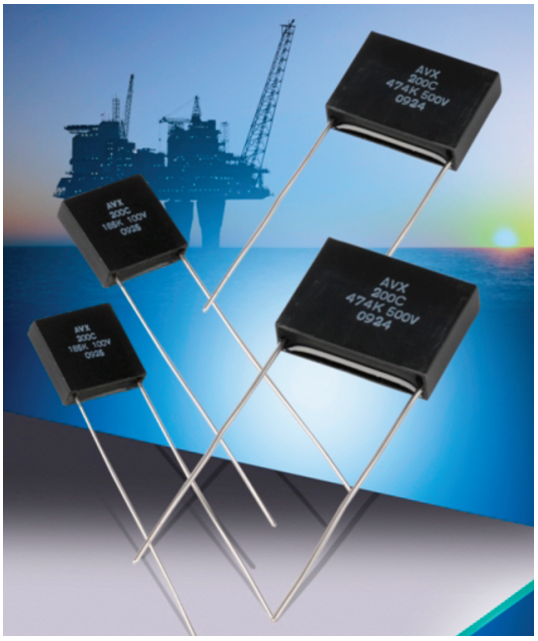
SMPS Molded Radial MLC Capacitors

SXP Style for High Temperature Applications up to 200ºC



SXP-style, encapsulated radial leaded MLC capacitors are ideally suited for high temperature applications up to 200ºC. This product is intended for downhole oil exploration, including logging while drilling, geophysical probes, as well as space, aerospace and hybrid automotive applications. This product supplements the SMX family of capacitors and offers mechanical protection to the ceramic element in extreme harsh environment. The high temperature solder utilized in the construction of SXP-style parts assures reliable operation in high temperature and rugged environments. The SXP-style capacitors are ideally suited for applications as DC filters in high power, high frequency motor drives, high pulsed-current circuitry, as well as standard electronic equipment designed for high temperature applications.

SXP-style, switch mode power supply capacitors are characterized with excellent performance. The main benefits of SXP product include:

- Low ESR, low ESL
- Low DC leakage
- Excellent high frequency performance

Not RoHS Compliant

HOW TO ORDER

SXP	3	1	C	104	M	A	A
AVX Style	**Size** See Dimensions chart	**Voltage Code** 50V = 5 100V = 1 200V = 2 500V = 7 1000V = A 1500V = S 2000V = G 3000V = H	**Temperature Coefficient** C0G = A VHT = C	**Capacitance Code** (2 significant digits + number of zeros) 100 pF = 101 22,000 pF = 223 1µF = 105	**Capacitance Tolerance** C0G: J = ±5% K = ±10% M = ±20% X7R: J = ±5% K = ±10% M = ±20% Z = +80%, -20% **Tighter tolerances available upon request**	**Test Level** A = Standard	**Leads** A = Standard Sn/Pb (min. 5% Pb)

ELECTRICAL SPECIFICATIONS

Temperature Coefficient

C0G:	A Temperature Coefficient	0 ±30 ppm/°C, -55° to +200°C
VHT:	C Temperature Coefficient	±15%, -55°C to +125°C +15% - 56%, -55ºC to +200°C

Capacitance Test (MIL-STD-202 Method 305)
25°C, 1.0±0.2 Vrms (open circuit voltage) at 1KHz

Dissipation Factor 25°C
C0G: 0.15% Max @ 25°C, 1.0±0.2 Vrms (open circuit voltage) at 1KHz
X7R/X9U: 2.5% Max @ 25°C, 1.0±0.2 Vrms (open circuit voltage) at 1KHz

Insulation Resistance 25°C (MIL-STD-202 Method 302)
100K MΩ or 1000 MΩ-µF, whichever is less.

Insulation Resistance 125°C (MIL-STD-202 Method 302)
10K MΩ or 100 MΩ-µF, whichever is less.

Insulation Resistance 200°C (MIL-STD-202 Method 302)
1k MΩ or 10 MΩ -µF, whichever is less.

Dielectric Withstanding Voltage 25°C (Flash Test)
250% rated voltage for 5 seconds with 50 mA max charging current. (150% for 500 VDC and 120% for 1000 VDC and higher voltage ratings)

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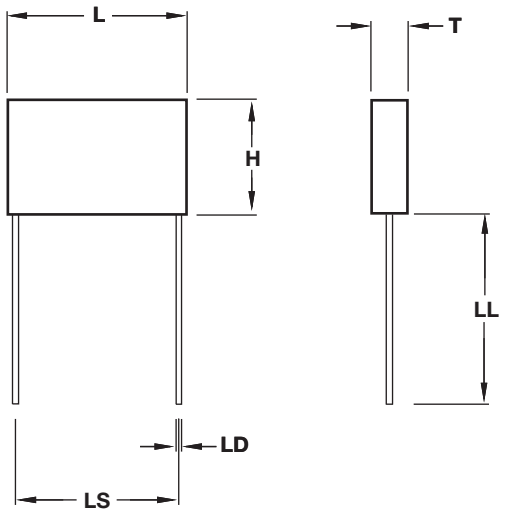
STYLE



DIMENSIONS

millimeters (inches)

AVX Style	Length (L) ±0.25 (±0.010)	Height (H) ±0.25 (±0.010)	Thickness (T) ±0.25 (±0.010)	Lead Spacing ±0.76 (±0.030)	LD ±0.05 (±0.002)
SXP1	8.9 (0.350)	8.9 (0.350)	5.08 (0.200)	5.08 (0.200)	0.51 (0.020)
SXP2	11.4 (0.450)	11.4 (0.450	5.08 (0.200)	5.08 (0.200)	0.51 (0.020)
SXP3	12.7 (0.500)	12.7 (0.500)	5.08 (0.200)	10.2 (0.400)	0.64 (0.025)
SXP4	22.4 (0.880)	16.3 (0.640)	5.84 (0.230)	19.8 (0.780)	0.81 (0.032)

CAPACITANCE RANGE

C0G

Style		50V	100V	200V	500V	1000V	1500V	2000V	3000V
SXP1	(MIN)	1000pF	1000pF	1000pF	100pF	100pF	100pF	100pF	100pF
	(MAX)	.047µF	.027µF	8200pF	4700pF	2200pF	1000pF	560pF	270pF
SXP2	(MIN)	.01µF	1000pF	1000pF	100pF	100pF	100pF	100pF	100pF
	(MAX)	.10µF	.056µF	.018µF	8200pF	4700pF	1800pF	1200pF	560pF
SXP3	(MIN)	.01µF	1000pF	1000pF	1000pF	1000pF	100pF	100pF	100pF
	(MAX)	.15µF	.068µF	.022µF	.012µF	6800pF	2700pF	1500pF	1000pF
SXP4	(MIN)	.01µF	.01µF	1000pF	1000pF	1000pF	1000pF	100pF	100pF
	(MAX)	.39µF	.22µF	.068µF	.033µF	.018µF	8200pF	4700pF	2700pF

VHT

Style		50V	100V	200V	500V	1000V	1500V	2000V	3000V
SXP1	(MIN)	.1µF	.01µF	.01µF	.01µF	.01µF	.01µF	1000pF	1000pF
	(MAX)	1.5µF	1.0µF	.33µF	.12µF	.056µF	.022µF	.012µF	4700pF
SXP2	(MIN)	.1µF	.1µF	.01µF	.01µF	.01µF	.01µF	.01µF	1000pF
	(MAX)	2.7µF	1.8µF	.68µF	.27µF	.10µF	.056µF	.022µF	8200pF
SXP3	(MIN)	.01µF	.1µF	.01µF	.01µF	.01µF	.01µF	.01µF	.01µF
	(MAX)	3.9µF	2.7µF	1.0µF	.33µF	.15µF	.082µF	.033µF	.015µF
SXP4	(MIN)	1µF	.1µF	.1µF	.01µF	.01µF	.01µF	.01µF	.01µF
	(MAX)	12µF	8.2µF	2.7µF	1.0µF	.47µF	.22µF	.10µF	.039µF