

GENERAL DESCRIPTION

AVX SA Series

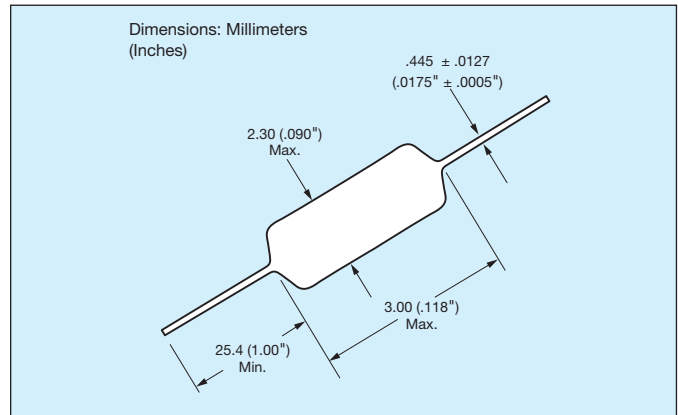
Conformally Coated Axial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, X5R, Z5U

10, 50, 100, 200 Volts

Case Material: Epoxy (Flame Retardant to UL Bulletin 492, Par. 280)

Lead Material: Solderable



HOW TO ORDER

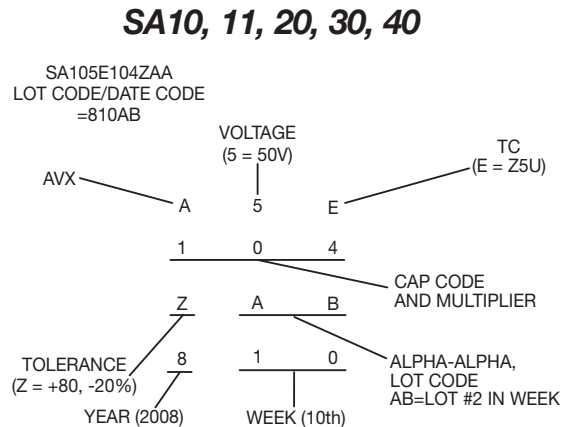
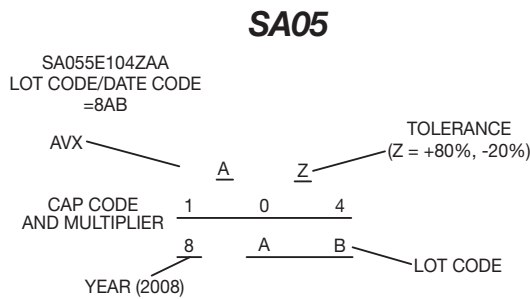
SA10	5	E	104	Z	A	R
Conformal Axial Size	Voltage	Dielectric	Capacitance	Capacitance Tolerance	Failure Rate	Leads
SA05 SA10 SA11 SA20 SA30 SA40	Z = 10V 5 = 50V 1 = 100V 2 = 200V	A = C0G (NP0) C = X7R D = X5R E = Z5U	First two digits are the significant figures of capacitance. Third digit indicates the additional number of zeros. For example, order 100,000 pF as 104. (For values below 10pF use "R" in place of decimal point, e.g., 1R4 = 1.4pF.)	C0G (NP0): C = ±.25pF D = ±.5pF F = ±1% G = ±2% J = ±5% K = ±10%	X7R: J = ±5% K = ±10% M = ±20% X5R: K = ±10% M = ±20% Z5U: M = ±20% Z = +80% -20%	A = Not Applicable Standard (Solderable) R = RoHS Compliant A = Standard Solderable



Please select correct termination style.

MARKING (EXAMPLE)

SpinGuard marking includes full date code/lot code identification. A first in the industry, this format provides complete traceability to all manufacturing processes involving the basic chip and final assembly. Total Shipment traceability is also provided.



PACKAGING REQUIREMENTS

- A = Standard Reels (see Page 49)
- B = 1000 piece reels (distributors only, tight tolerance only)
- C = Ammo Pack (see Page 49)
- D thru J = See Special Lead Configurations (Page 41)
- M = 26mm tape and reel
- N = 26mm ammo pack
- R = RoHS, Standard reels (See page 49)

Axial Leads/SpinGuard®



C0G (NP0) Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS



Dimensions: Millimeters (Inches)

AVX Style	SA05	SA10			SA11		SA20		SA30		SA40		
		Length (L)	Diameter (D)	Lead Diameter	Lead Length	Cap. in pF	Typical AVX Part Nos.	WVDC 200	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100
SA102A1R0DAR	3.00 (.118")	2.30 (.090")	.445 (.0175")	25.4 (1.00")	1.0*	SA102A1R0DAR							
SA102A9R1DAR	4.32 (.170")	2.54 (.100")	.445 (.0175")	25.4 (1.00")	9.1*	SA102A9R1DAR							
SA102A100JAR	4.32 (.170")	2.54 (.100")	.445 (.0175")	25.4 (1.00")	10	SA102A100JAR							
SA102A120JAR	6.60 (.260")	3.05 (.120")	.445 (.0175")	25.4 (1.00")	12	SA102A120JAR							
SA102A150JAR	6.60 (.260")	2.54 (.100")	.445 (.0175")	25.4 (1.00")	15	SA102A150JAR							
SA102A180JAR	7.37 (.290")	3.81 (.150")	.445 (.0175")	25.4 (1.00")	18	SA102A180JAR							
SA102A220JAR	7.37 (.290")	3.81 (.150")	.445 (.0175")	25.4 (1.00")	22	SA102A220JAR							
SA102A270JAR	10.16 (.400")	3.81 (.150")	.445 (.0175")	25.4 (1.00")	27	SA102A270JAR							
SA102A330JAR					33	SA102A330JAR							
SA102A390JAR					39	SA102A390JAR							
SA102A470JAR					47	SA102A470JAR							
SA102A560JAR					56	SA102A560JAR							
SA102A680JAR					68	SA102A680JAR							
SA102A820JAR					82	SA102A820JAR							
SA102A101JAR					100	SA102A101JAR							
SA102A121JAR					120	SA102A121JAR							
SA101A151JAR					150	SA101A151JAR							
SA101A181JAR					180	SA101A181JAR							
SA101A221JAR					220	SA101A221JAR							
SA101A271JAR					270	SA101A271JAR							
SA101A331JAR					330	SA101A331JAR							
SA101A391JAR					390	SA101A391JAR							
SA101A471JAR					470	SA101A471JAR							
SA101A561JAR					560	SA101A561JAR							
SA101A681JAR					680	SA101A681JAR							
SA101A821JAR					820	SA101A821JAR							
SA105A102JAR					1000	SA105A102JAR							
SA201A122JAR					1200	SA201A122JAR							
SA201A152JAR					1500	SA201A152JAR							
SA205A182JAR					1800	SA205A182JAR							
SA301A222JAR					2200	SA301A222JAR							
SA301A272JAR					2700	SA301A272JAR							
SA301A332JAR					3300	SA301A332JAR							
SA301A392JAR					3900	SA301A392JAR							
SA305A472JAR					4700	SA305A472JAR							
SA401A562JAR					5600	SA401A562JAR							
SA401A682JAR					6800	SA401A682JAR							
SA405A822JAR					8200	SA405A822JAR							
SA405A103JAR					10,000	SA405A103JAR							
SA405A123JAR					12,000	SA405A123JAR							

For other tolerances see Part No. Codes
 For other voltages see Part No. Codes
 AVX Style

= Industry preferred values

**"C&D" Tolerance Only



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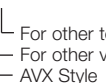
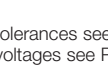
X7R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)



AVX Style	SA05	SA10	SA11	SA20	SA30	SA40						
Length (L)	3.00 (.118")	4.32 (.170")	4.32 (.170")	6.60 (.260")	7.37 (.290")	10.16 (.400")						
Diameter (D)	2.30 (.090")	2.54 (.100")	3.05 (.120")	2.54 (.100")	3.81 (.150")	3.81 (.150")						
Lead Diameter	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")						
Lead Length	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")						
Cap. in pF	Typical AVX Part Nos.	WVDC			WVDC		WVDC		WVDC		WVDC	
		200	100	50	200	100	50	100	50	100	50	100
220	SA102C221KAR											
270	SA102C271KAR											
330	SA102C331KAR											
390	SA102C391KAR											
470	SA102C471KAR											
560	SA101C561KAR											
680	SA101C681KAR											
820	SA101C821KAR											
1000	SA101C102KAR											
1200	SA101C122KAR											
1500	SA101C152KAR											
1800	SA101C182KAR											
2200	SA101C222KAR											
2700	SA101C272KAR											
3300	SA101C332KAR											
3900	SA101C392KAR											
4700	SA101C472KAR											
5600	SA101C562KAR											
6800	SA101C682KAR											
8200	SA105C822KAR											
10,000	SA105C103KAR											
12,000	SA105C123KAR											
15,000	SA105C153KAR											
18,000	SA105C183KAR											
22,000	SA105C223KAR											
27,000	SA105C273KAR											
33,000	SA105C333KAR											
39,000	SA105C393KAR											
47,000	SA105C473KAR											
56,000	SA115C563KAR											
68,000	SA115C683KAR											
82,000	SA115C823KAR											
100,000	SA115C104KAR											
120,000	SA305C124KAR											
150,000	SA305C154KAR											
180,000	SA305C184KAR											
220,000	SA305C224KAR											
270,000	SA305C274KAR											
330,000	SA305C334KAR											
470,000	SA405C474KAR											
1,000,000	SA305C105KAR											

 For other tolerances see Part No. Codes
 For other voltages see Part No. Codes
 AVX Style

 = Industry preferred values

Axial Leads/SpinGuard®



Z5U Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)

AVX Style	SA05	SA10	SA11	SA20	SA30	SA40		
Length (L)	3.00 (.118")	4.32 (.170")	4.32 (.170")	6.60 (.260")	7.37 (.290")	10.16 (.400")		
Diameter (D)	2.30 (.090")	2.54 (.100")	3.05 (.120")	2.54 (.100")	3.81 (.150")	3.81 (.150")		
Lead Diameter	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")		
Lead Length	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")	25.4 (1.00")		
Cap. in pF	Typical AVX Part Nos.	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50	WVDC 100	WVDC 50
10,000 15,000 22,000	SA105E103ZAR SA105E153ZAR SA105E223ZAR							
33,000 47,000 68,000	SA105E333ZAR SA105E473ZAR SA105E683ZAR							
*100,000 150,000 220,000	SA105E104ZAR SA105E154ZAR SA105E224ZAR							
330,000 470,000 680,000	SA115E334ZAR SA305E474ZAR SA305E684ZAR							
820,000 1,000,000	SA305E824ZAR SA305E105ZAR							

For other tolerances see Part No. Codes
 For other voltages see Part No. Codes
 AVX Style

= Industry preferred values

*Preferred Industry Decoupling Capacitor — Insertable on .300" centers.
SA105E104ZAA



Axial Leads/SpinGuard®



X5R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)



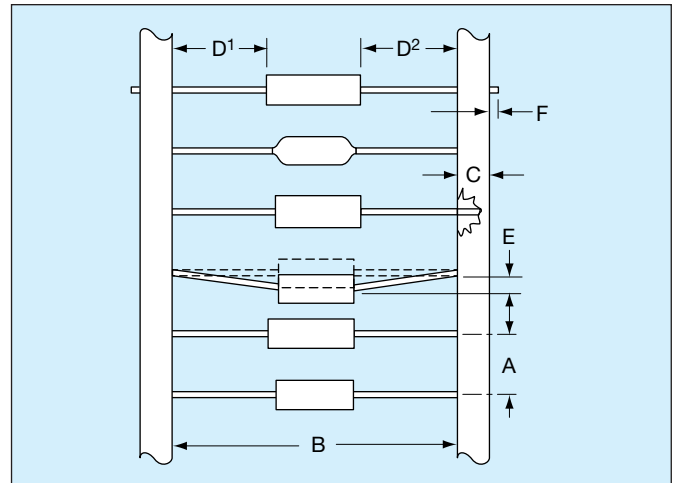
AVX Style		SA10
Length (L)		4.32 (.170")
Diameter (D)		2.54 (.100")
Lead Diameter		.445 (.0175")
Lead Length		25.4 (1.00")
Cap. in μF	Typical AVX Part Nos.	WVDC 10
1.8	SA10ZD185KAR	
2.7	SA10ZD275KAR	
3.3	SA10ZD335KAR	
4.7	SA10ZD475KAR	

For other tolerances see Part No. Codes
 For other voltages see Part No. Codes
 AVX Style

= Industry preferred values

TAPE AND REEL

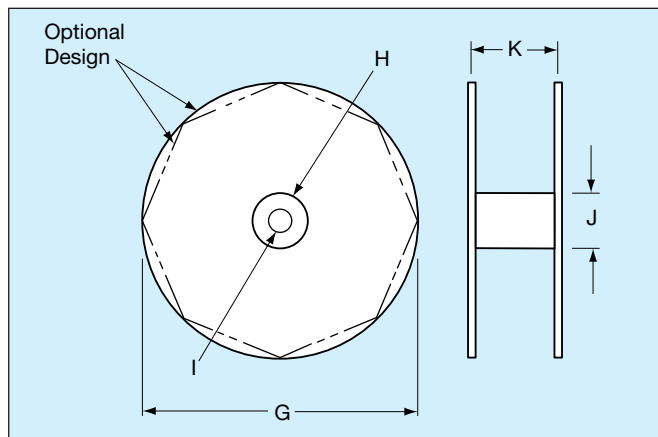
CLASS I / RS-296	
A.	5mm ± 0.5mm (.200" ± 0.020")
B*	52.4mm ± 1.5mm (2.063" ± 0.059")
C.	6.35mm ± 0.4mm (0.250" ± 0.016")
D ¹ -D ² .	1.4mm (0.055" MAX.)
E.	1.2mm (0.047" MAX.)
F.	1.6mm (0.063" MAX.)
G.	356mm (14.00")
H.	76mm (3.000")
I.	25.4mm (1.000")
J.	84mm (3.300")
K.	70mm (2.750")



Leader Tape: 300mm min. (12")

Splicing: Tape Only

Missing Parts: 0.25% of component count max.-
No consecutive missing parts



REEL QUANTITIES (MAX.) ‡

SA05	7,500 pcs.	MA10	5,000 pcs.
SA10	7,500 pcs.	MA20	5,000 pcs.
SA11	5,000 pcs.	MA30	3,000 pcs.
SA20	5,000 pcs.	MA40	3,000 pcs.
SA30	5,000 pcs.	MA50	950 pcs.
SA40	5,000 pcs.	MA60	650 pcs.

‡ 1000 pc. reels available for distribution pack only in ±1% and ±2% tolerance.

* Standard Tape Spacing Shown. Also available in 26.0mm + 1.5mm, - 0mm, (1.023 in. + .059 in. - 0 in.) for SpinGuards only. EIA Class I, II and III tape spacings are available for molded axials. Tape spacing for Class II is 63.5mm ± 1.5mm (2.50 in ± .059 in), and for Class III 73mm ± 1.5mm (2.87 in ± .059 in)

ADDITIONAL PACKAGING AVAILABLE

AMMO PACK

Tape Spacing	SA05, SA10 SA20	SA11 SA30	SA40	BOX SIZES (Nominal)		
				L	W	H
52.4mm ± 1.5mm (2.062" ± .059")	4,000 pcs.	2000	2,000 pcs.	255mm (10.039")	73mm (2.874")	93mm (3.661")
26.0mm + 1.5mm - 0mm (1.023" + .059" - 0")	4,000 pcs.*	2000	2,000 pcs.*	255mm (10.039")	48mm (1.889")	113mm (4.448")

*SpinGuard only

BULK PACK (MOLDED AXIALS ONLY)

MA10 MA20 MA30 MA40	100 pcs. (bag)
MA50 MA60	50 pcs. (bag)