



**THE DATASHEET OF
SA052C221KAA**



AXIAL LEADS

SpinGuard®/SA Series

GENERAL INFORMATION

SA Series

Conformally Coated Axial Leaded MLC

Temperature Coefficients: COG (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 = COG (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.)	COG (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 (Also RoHS Compliant)

RoHS COMPLIANT
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® - SA Series - COG (NP0) Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)

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 Part Nos.	WVDC		WVDC		WVDC		WVDC		WVDC		WVDC	
		100	50	200	100	50	100	50	100	50	100	50	100
1.0*	SA102A1R0DAR												
9.1*	SA102A9R1DAR												
10	SA102A100JAR												
12	SA102A120JAR												
15	SA102A150JAR												
18	SA102A180JAR												
22	SA102A220JAR												
27	SA102A270JAR												
33	SA102A330JAR												
39	SA102A390JAR												
47	SA102A470JAR												
56	SA102A560JAR												
68	SA102A680JAR												
82	SA102A820JAR												
100	SA102A101JAR												
120	SA102A121JAR												
150	SA101A151JAR												
180	SA101A181JAR												
220	SA101A221JAR												
270	SA101A271JAR												
330	SA101A331JAR												
390	SA101A391JAR												
470	SA101A471JAR												
560	SA101A561JAR												
680	SA101A681JAR												
820	SA101A821JAR												
1000	SA105A102JAR												
1200	SA201A122JAR												
1500	SA201A152JAR												
1800	SA205A182JAR												
2200	SA301A222JAR												
2700	SA301A272JAR												
3300	SA301A332JAR												
3900	SA301A392JAR												
4700	SA305A472JAR												
5600	SA401A562JAR												
6800	SA401A682JAR												
8200	SA405A822JAR												
10,000	SA405A103JAR												
12,000	SA405A123JAR												

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

= Industry preferred values

**C&D" Tolerance Only

AXIAL LEADS/

SpinGuard® - SA Series - X7R Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)



Style	SA05	SA10			SA11		SA20		SA30		SA40	
		Length (L)	Diameter (D)	Lead Diameter	Lead Length	Length (L)	Diameter (D)	Lead Diameter	Lead Length	Length (L)	Diameter (D)	Lead Diameter
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
 Style

= Industry preferred values

AXIAL LEADS/SPINGUARD®

SpinGuard® - SA Series - Z5U Dielectric



SIZE AND CAPACITANCE SPECIFICATIONS

Dimensions: Millimeters (Inches)

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 Part Nos.	WVDC		WVDC		WVDC		WVDC		WVDC	
		50	100	50	100	50	100	50	100	50	100
10,000	SA105E103ZAR										
15,000	SA105E153ZAR										
22,000	SA105E223ZAR										
33,000	SA105E333ZAR										
47,000	SA105E473ZAR										
68,000	SA105E683ZAR										
*100,000	SA105E104ZAR										
150,000	SA105E154ZAR										
220,000	SA105E224ZAR										
330,000	SA115E334ZAR										
470,000	SA305E474ZAR										
680,000	SA305E684ZAR										
820,000	SA305E824ZAR										
1,000,000	SA305E105ZAR										

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

= Industry preferred values

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

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management