



**THE DATASHEET OF  
SA102A470KAR**



# 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

<b>SA10</b>	<b>5</b>	<b>E</b>	<b>104</b>	<b>Z</b>	<b>A</b>	<b>R</b>
<b>Conformal Axial Size</b>	<b>Voltage</b>	<b>Dielectric</b>	<b>Capacitance</b>	<b>Capacitance Tolerance</b>	<b>Failure Rate</b>	<b>Leads</b>
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												
<b>100</b>	<b>SA102A101JAR</b>												
120	SA102A121JAR												
150	SA101A151JAR												
180	SA101A181JAR												
220	SA101A221JAR												
270	SA101A271JAR												
330	SA101A331JAR												
390	SA101A391JAR												
470	SA101A471JAR												
560	SA101A561JAR												
680	SA101A681JAR												
820	SA101A821JAR												
<b>1000</b>	<b>SA105A102JAR</b>												
1200	SA201A122JAR												
1500	SA201A152JAR												
1800	SA205A182JAR												
<b>2200</b>	<b>SA301A222JAR</b>												
2700	SA301A272JAR												
3300	SA301A332JAR												
3900	SA301A392JAR												
<b>4700</b>	<b>SA305A472JAR</b>												
5600	SA401A562JAR												
6800	SA401A682JAR												
<b>8200</b>	<b>SA405A822JAR</b>												
<b>10,000</b>	<b>SA405A103JAR</b>												
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)	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			
		200	100	50	200	100	50	100	50	100	50	100	50		
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														
<b>10,000</b>	<b>SA105C103KAR</b>														
12,000	SA105C123KAR														
15,000	SA105C153KAR														
18,000	SA105C183KAR														
22,000	SA105C223KAR														
27,000	SA105C273KAR														
33,000	SA105C333KAR														
39,000	SA105C393KAR														
<b>47,000</b>	<b>SA105C473KAR</b>														
56,000	SA115C563KAR														
68,000	SA115C683KAR														
82,000	SA115C823KAR														
<b>100,000</b>	<b>SA115C104KAR</b>														
120,000	SA305C124KAR														
150,000	SA305C154KAR														
180,000	SA305C184KAR														
<b>220,000</b>	<b>SA305C224KAR</b>														
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					
<b>Length (L)</b>	3.00 (.118")	4.32 (.170")	4.32 (.170")	6.60 (.260")	7.37 (.290")	10.16 (.400")					
<b>Diameter (D)</b>	2.30 (.090")	2.54 (.100")	3.05 (.120")	2.54 (.100")	3.81 (.150")	3.81 (.150")					
<b>Lead Diameter</b>	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")	.445 (.0175")					
<b>Lead Length</b>	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
<b>10,000</b>	<b>SA105E103ZAR</b>										
15,000	SA105E153ZAR										
22,000	SA105E223ZAR										
33,000	SA105E333ZAR										
47,000	SA105E473ZAR										
68,000	SA105E683ZAR										
<b>*100,000</b>	<b>SA105E104ZAR</b>										
150,000	SA105E154ZAR										
<b>220,000</b>	<b>SA105E224ZAR</b>										
<b>330,000</b>	<b>SA115E334ZAR</b>										
<b>470,000</b>	<b>SA305E474ZAR</b>										
680,000	SA305E684ZAR										
820,000	SA305E824ZAR										
<b>1,000,000</b>	<b>SA305E105ZAR</b>										

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

## Looking for pricing, stock, or lifecycle information?

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## Optimize Your Supply Chain with WIN SOURCE Solutions

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