

III. SPECIFICATIONS FOR EACH SERIES

Large capacitance and miniaturized products

Suitable for high frequency switching power supplies, etc.



SA Series

Sleeve color : Purple  
 Marking : Polarity(⊖), Rated voltage, Rated Capacitance (White) **SANYO, OS-CON**, Lot.No.  
 Upper category temp.(105°C)

Specifications

Items	Characteristics		
1. Category temperature range	-55°C to +105°C		
2. Tolerance on rated capacitance (120Hz)	M : ±20%		
3. Tangent of loss angle(tanδ) (120Hz)	Less that or equal to the value of Table11		
4. Leakage current (μA/2min)(or less) ※1	Less that or equal to the value of Table11		
5. ESR (100k to 300kHz)	Less that or equal to the value of Table11		
6. Characteristics at high temp. and low temp. Impedance ratio at 100kHz, +20°C	-55°C	Z / Z20°C	0.75 to 1.25
	+105°C	Z / Z20°C	0.75 to 1.25
7. Endurance 105°C, 2,000h Rated voltage applied	ΔC/C	Within ±20%	
	tanδ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	
8. Damp heat (Steady state) (60°C, 90 to 95%RH, 1,000h no voltage)	ΔC/C	Within ±10%	
	tanδ	1.5 times of Item 3 or less	
	Leakage current	Item 4 or less	

※1 In case of some problems for measured values, measure after applying rated voltage for 30 minutes at 105°C.

Dimensions

Standards of lead position

(unit : mm)

Size Code	C	D	E	F	G	H
φDXL(max.)	6.3X7.8	6.3X10.8	8X11.5	10X11.5	12.5X23	16X26
F	2.5±0.5	2.5±0.5	3.5±0.5	5.0±0.5	5.0±1.0	7.5±1.0
φd	0.45	0.60	0.60	0.60	0.80	0.80
G(max.)	0.5	0.5	0.8	0.8	0.8	0.8
K(max.)	0.5	0.5	0.8	0.8	0.8	0.8

mark ●:ideal lead position  
 C:the middle point of A-A'

Size List

WV : Rated voltage  
 (SV) : Surge (room temperature)

μF	WV (SV)	6.3 (7.2)	10 (11.5)	16 (18.4)	20 (23)
15					C
22					C
33				C	D
47	C			D	E
68			D		E
100				E	F
150	E			F	
220			F		
330	F				
470				G	
1000				H	
2200	H				

※For the minimum packing quantity, see page 41.

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Table11 SA Series Characteristics List

Size Code	Part Number ※1	Rated Voltage (V)	Rated Capacitance (μF)	ESR (100kHz to 300kHz) (mΩ) (max.)	Allowable ripple current (mA rms)※2	Tangent of loss angle (max.)	Leakage current (μA) (max.)※3
C	20SA15M	20	15	90	1200	0.06	6.00
	20SA22M	20	22	70	1300	0.06	8.80
	16SA33M	16	33	70	1370	0.06	10.56
	6SA47M	6.3	47	60	1430	0.07	5.92
D	20SA33M	20	33	70	1710	0.06	13.20
	16SA47M	16	47	60	1830	0.06	15.04
	10SA68M	10	68	50	2000	0.07	13.60
E	20SA47M	20	47	40	2450	0.06	18.80
	20SA68M	20	68	36	2600	0.06	27.20
	16SA100M	16	100	30	2740	0.06	32.00
	6SA150M	6.3	150	30	2780	0.07	18.90
F	20SA100M	20	100	30	3210	0.06	40.00
	16SA150M	16	150	28	3260	0.06	48.00
	10SA220M	10	220	27	3370	0.07	44.00
	6SA330M	6.3	330	25	3500	0.07	41.58
G	16SA470M	16	470	20	6080	0.08	300.80
H	16SA1000M	16	1000	15	9750	0.09	640.00
	6SA2200M	6.3	2200	15	9750	0.13	554.40

※1 Tolerance on rated capacitance : M ; ±20%, Product "K" (Tolerance on rated capacitance : ±10%) is optionally available. However, the exception regarding G and H size.

※2 100kHz, +45°C

※3 After 2 minutes

Temperature coefficient for allowable ripple current

Ambient Temp.	$T_x \leq 45^\circ\text{C}$	$45^\circ\text{C} < T_x \leq 65^\circ\text{C}$	$65^\circ\text{C} < T_x \leq 85^\circ\text{C}$	$85^\circ\text{C} < T_x \leq 95^\circ\text{C}$	$95^\circ\text{C} < T_x \leq 105^\circ\text{C}$
Coefficient	1	0.85	0.7	0.4	0.25