SG Series Snap-in Type

Features
Directly mountable on printed circuit board without holders.
Smaller low profile sizes than ordinary capacitors.
Terminal spacing fixed at 10mm for PC board plug in.
Aluminum case designed explosion-proof vent.

Items	Performance Characteristics	
Voltage Range	10 to 100V DC	160 TO 450V DC
Capacitance Range	470 TO 68000μ	47 TO 27000μF
Temperature Range	-40 to 85°C	-25 to +85°C
Capacitance Tolerance	-20~+20°C (120Hz, +20°C)	
Leakage Current	1≤√CV(μA)(after 5 minutes)	

Dissipation Factor (tan) (120Hz, +20°C)

Less than the value under table (at 20°C, 120HZ)

μF	10~16V	25~35V	25~35V	50~63V	160~250V	315~450V
47~330					0.15	0.20
470~3300	0.25	0.20	0.20	0.20	0.15	0.20
4700~6800	0.35	0.30	0.30	0.25		
10000~22000	0.40	0.35	0.30			
27000~47000	0.45	0.40	0.35			
56000~68000	0.50	0.45				

Stability at Low Temperature

Impedance ratio max. 120Hz

Working Voltage (V)	25~100	160~250	350~450
-25°C/+20°C	4	3	8
-40°C/+20°C	15	12	

Load Lift

The following specifications shall be satisfied when the capacitors are restore to 20°C after the rated voltage is applied for 2000 hours at 85°C

Leakage Current	Initial specified value or less
Capacitance change	Within ±20% of initial value
Dissipation Factor (tan)	200% of initial specified value

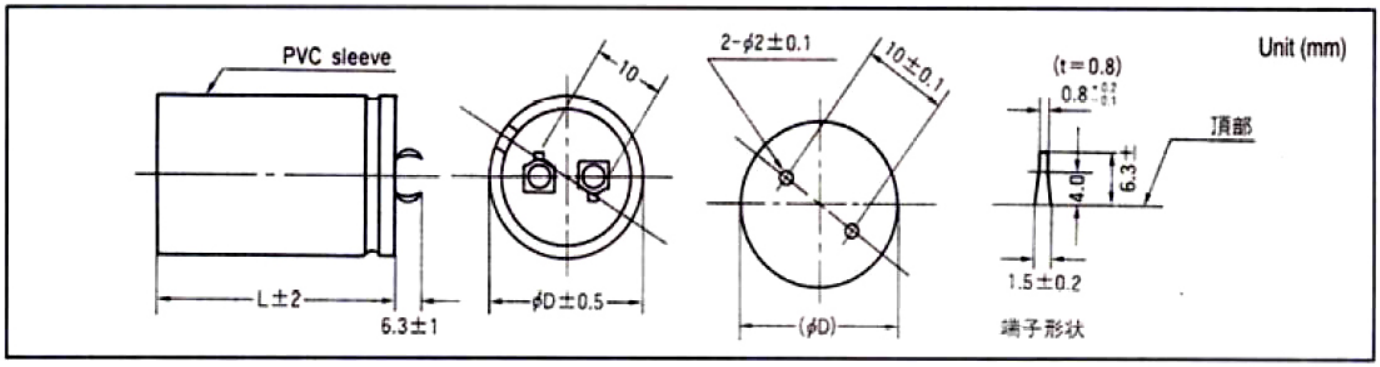
Shelf Life

At 85°C no voltage applied after 500 hours the capacitors shall meet the following limit.

Leakage Current	≤200% of initial specified value
Capacitance change	≤±20% of initial value
Dissipation Factor (tan)	≤150% of initial specified value

Others	Satisfies characteristic W of JIS C 5141-1982

SG Dimensions



Case Size Table & Permissible Ripple Current

µF/WV	10		16		25		35		50		63		80		100	
470	Case Size: D x L (mm) R.C. : (at 85°C, 120Hz) Max Ripple Current: A (rms)														20x30 22x25	1.30 1.15
680													22x25	1.30	22x25	1.53
820															22x30 25x26	1.55 1.54
1000											22x30 22x25	1.50 1.45	22x36 22x30	1.60 1.35	22x30 25x25	2.20 1.71
1200															22x36 25x31	2.30 2.20
1500									22x16	1.40	22x30 22x25	1.80 1.75	22x31 25x26	1.80 1.75	22x40 25x31	2.54 2.38
1800													22x36 25x31	1.80 1.60	22x46 25x41	2.20 2.05
2200							22x25	2.18	25x25 25x25	1.90 2.00	22x30 25x26	2.10 2.00	22x41 25x31	2.50 2.30	22x50 25x41	3.07 2.77
2700									22x31	2.30	22x36 25x31	2.80 2.70	22x46 25x36	2.80 2.65	25x46 30x36	3.15 3.00
3300					20x30 22x25	2.05 2.10	20x30 22x25	2.10 2.05	22x31 25x26	2.50 2.40	22x40 25x31	2.81 2.76	22x50 25x41	3.30 3.12	25x50 30x41	3.39 3.27
3900							22x30	2.50			22x40 25x36	3.20 3.10	25x46 30x36	3.40 3.10	30x46 35x37	3.50 3.30
4700			20x30 22x25	2.20 1.80	20x30 25x25	2.50 2.30	22x30 25x26	2.45 2.40	22x36 25x31	3.00 2.90	22x50 25x40	3.20 3.11	25x50 30x41	3.60 3.45	30x51 35x42	3.70 3.50
5600					22x31	2.60			22x40 25x36	3.00 2.80	25x46 30x36	3.80 3.60	30x46 35x37	3.80 3.65	35x47	3.90
6800			20x30 22x25	2.45 2.40	22x30 25x26	2.85 2.70	22x40 25x30	3.00 2.90	22x50 25x40	3.00 2.85	25x50 30x40	3.68 3.54	30x51 35x42	4.50 3.84	35x50	4.85
8200	22x30 22x25	2.4 2.45	20x30 22x25	2.75 2.70	22x40 25x26	3.15 3.00	22x40 25x30	3.45 3.25	25x46 35x35	3.60 3.80	30x46 35x37	3.99 3.81	35x52	4.90	35x60	5.30
10000	22x30 22x25	2.70 2.60	22x30 25x25	3.00 2.85	22x40 25x31	3.45 3.15	22x46 25x40	3.50 3.40	25x50 30x40	3.90 3.75	35x42	4.48			35x70 40x60	5.49 5.49
12000	22x30 22x25	2.80 2.70	22x40 25x26	3.30 3.15	22x50 25x40	3.80 3.75	25x40 35x35	3.85 3.70	30x50 35x40	4.55 4.35	35x52	5.12				
15000	22x30 30x25	3.15 3.00	22x40 25x31	3.60 3.55	22x50 35x45	3.80 3.60	25x50 30x40	4.50 4.10	30x50 35x42	5.30 4.70						
18000			22x40 25x36	4.34 4.20	25x50 30x41	4.70 4.50	30x46 35x37	4.80 4.60	35x47	5.30						
22000	22x40 30x30	3.80 3.45	22x46 25x36	4.25 4.00	25x50 35x30	4.85 5.20	30x50 35x42	5.70 4.90	35x52	5.80						
27000			25x40 30x36	6.50 6.30	30x46 35x36	5.90 6.50	35x47	5.70								
33000	25x40 35x30	5.00 4.90	25x50 30x40	6.50 5.00	30x50	8.95	35x60	6.45								
39000			30x46 35x36	8.10 7.50	35x42	8.80										
47000	25x50 30x45	6.00 6.50	30x50 35x45	7.50 7.00	35x50	9.00										
56000			30x50 35x46	10.00 9.50												
68000	30x50	6.65	35x50	10.05												

Case Size Table & Permissible Ripple Current

µF/WV	160		200		250		315		350		400		450	
47	Case Size: D x L (mm) R.C. : (at 85°C, 120Hz) Max Ripple Current: A (rms)										25x25 35x30	0.40 0.28	22x26	0.36
68									22x25	0.53	22x25	051		
82									22x25	0.59	22x26	0.60		
100							22x30 25x25	0.63 0.58	22x30 25x25	0.66 0.63	22x30 25x25	0.68 0.65	22x36 25x31	0.61 0.35
120					20x30 22x25	0.90 0.75			22x31 25x26	0.70 0.68	22x31 25x25	0.90 0.87		
150			20x30 22x25	2.00 1.85	20x30 22x25	1.00 0.97			22x35 25x31	0.86 0.82	22x41 25x31	0.95 0.85	22x50 25x40	0.88 0.59
180	20x30 22x25	1.20 1.05			22x26	1.10			22x41 25x36	0.90 0.85				
220			20x30 22x25	1.00 0.97	22x30 25x25	1.35 1.09	22x50 30x30	1.38 1.25	22x45 25x41	1.17 1.06	22x50 25x41	1.27 1.17	25x50 35x37	1.06 0.97
270	22x26	1.30	22x26	1.50	22x31 25x25	1.11 1.05			25x46 30x36	1.60 1.40	25x46 30x36	1.65 1.59		
330	22x30 25x25	1.14 1.11	22x30 25x25	1.29 1.23	22x40 25x31	1.58 1.42	25x50 35x30	2.08 1.85	25x50 30x41	1.60 1.53	30x41 35x37	1.90 1.75	35x47	1.13
390	22x31 25x26	1.71 1.58			22x41 25x36	2.00 1.85			25x50 30x46	2.00 1.85	30x36	2.19		
470	22x31 25x26	1.53 1.45	22x40 25x31	1.74 1.55	22x46 25x41	2.08 1.93	30x50	2.96	30x50 35x40	2.01 1.92	35x47	2.50		
560	22x35 25x31	1.67 1.58	22x40 25x36	2.00 1.82	25x45 30x36	2.29 2.22			35x45	2.31	35x52	2.79		
680	22x40 25x36	1.95 1.87	22x46 25x36	2.14 2.08	25x50 30x40	2.68 2.46			35x52	2.90				
820	22x50 25x36	2.36 2.05	25x50 30x36	2.59 2.55	30x45 35x40	3.11 2.83								
1000	25x45 30x36	2.62 2.55	25x52 30x42	2.99 2.87	30x50 35x42	3.60 3.35								
1200	25x50 30x36	3.40 3.20	30x46 35x37	4.25 4.08	35x46	4.00								
1500	30x45 35x37	3.35 3.28	30x51 35x42	5.30 5.15	35x52	5.00								
1800	30x51 35x42	4.40 3.59	35x47	5.80										
2200	35x51	4.70	35x51	6.50										
2700	35x60	4.80												

A-CAP PART NUMBER SYSTEM FOR ALUMINUM ELECTROLYTIC CAPACITORS

RoHS Compliant Pb Free

ORDERING INFORMATION

OPTIONAL DIMENSIONS AND LEAD SPACING (IF NOT STANDARD)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C E L	S R	1 0 3	M	0 1 6	B	2 0 3 6	G
Electrolytic Capacitors	Series	Capacitance (µF)	Capacitance Tolerance (EIA Code)	Voltage Code	Packing Code	Diameter x Height (mm)	Lead Spacing

Series
SR
SA
GR
GA
SS
SK
SL
SZ
NR
NA
BA
LS
LB
SG

EXAMPLES:	
Capacitance	Code
0.1 µF	R10
0.68 µF	R68
1.0 µF	1R0
6.8 µF	6R8
10 µF	100
68 µF	680
100 µF	101
680 µF	681
1000 µF	102
6800 µF	682
10000 µF	103

Code	Tolerance
K	± 10%
*M	± 20%
Q	-10 ~ +30%
T	-10 ~ +50%

Rated Voltage	Code
10 V	010
16 V	016
25 V	025
35 V	035
50 V	050
63 V	063
100 V	100
160 V	160
200 V	200
250 V	250
350 V	350
400 V	400
450 V	450

Code	Packing Form and Lead
B	Bulk
A	Ammo Taping
T	Tape & Reel
C	Lead cut only
Z	Lead formed only
F	Lead cut & formed
Y	Lead kinked

EXAMPLES: Dimensions	
Diameter x Height (mm)	Code
4 x 7 mm	0407
5 x 11 mm	0511
6 x 7 mm	0607
6 x 11 mm	0611
8 x 9 mm	0809
8 x 12 mm	0812
10 x 17 mm	1017
13 x 21 mm	1321
16 x 26 mm	1626
20 x 36 mm	2036
22 x 41 mm	2241
25 x 56 mm	2556

Code	Lead Spacing Denoted By "F" (mm)
A	1.5 mm
B	2.0 mm
C	2.5 mm
D	3.5 mm
E	5.0 mm
F	7.5 mm
G	10.5 mm
H	12.5 mm

ORDERING DESCRIPTION

(1) CAPACITOR TYPE (ALUMINUM ELECTROLYTIC)

(2) CAPACITOR SERIES

(3) CAPACITANCE CODE expressed in microfarads (µF) with three digit codes. The first two digits are significant ("R" indicates decimal point for under 10 µF) and the third digit represents the number of zeros to be added following the 2nd significant figure.

(4) TOLERANCE CODE [(M) is standard]

(5) RATED VOLTAGE in volts

(6) PACKAGING AND LEAD CONFIGURATION CODES

(7) SIZE (DIAMETER x HEIGHT in mm)

(8) LEAD SPACING in mm (Not applicable for AXIAL TYPE)

When placing an order for A-CAP ELECTROLYTIC CAPACITORS, product specifications are applied to develop part numbers as shown below:

EXAMPLE:
General purpose 1000 µF / 50 Volts / 20% / Radial Type Bulk / Lead spacing = 7.5mm
NOTE: For Capacitance Value 1000 µF, 1 & 0 are significant digits then 2 zeros follow the 2nd signficant digit = Code 102

CEL	SR	102	M	050	B	1626	F

EXAMPLE:
High temperature load 470 µF / 25 Volts / 20% Radial Type (Tape & Reel) / Lead spacing = 5.0mm
NOTE: For Capacitance Value 470 µF, 4 & 7 are significant digits then 1 zero follows the 2nd significant digit = Code 471

CEL	GR	471	M	025	T	1021	E