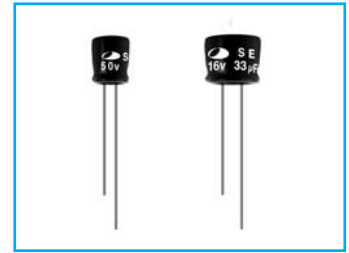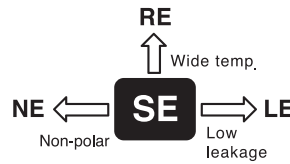# MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

SAMWHA

SE Standard, Height 5mm Series
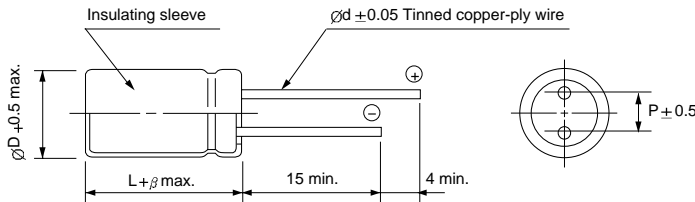
· Ultra miniature series with 5mm height
· Suitable to replace tantalum capacitors at low cost
· Load life of 2000 hours at 85℃

Miniaturized

RE
Wide temp.

NE ⟸ **SE** ⟹ LE
Non-polar   Low leakage

Item	Characteristics							
Operating temperature range	-40 ~ +85℃							
Leakage current max.	I = 0.01CV or 4μA whichever is greater (after 1 minute)							
Capacitance tolerance	$\pm$20% at 120Hz, 20℃							
Dissipation factor max. (at 120Hz, 20℃)	WV	4	6.3	10	16	25	35	50	63
	tanδ	0.35	0.24	0.20	0.16(0.20)	0.13(0.15)	0.12(0.14)	0.09(0.11)	0.09(0.11)
	Figures in ( ) are for ∅3 products.							

Low temperature characteristics (Impedance ratio at 120Hz)	WV	4	6.3	10	16~63
	Z-25℃/Z+20℃	6	4	3	2
	Z-40℃/Z+20℃	12	8	6	4

Load life (after application of the rated voltage for 2000 hours at 85℃)	Leakage current	Less than specified value
	Capacitance change	Within $\pm$20% of initial value
	tanδ	Less than 200% of specified value

Shelf life (at 85℃)	After 1000 hours no load test, leakage current, capacitance and tanδ are same as load life value.

● DRAWING

Unit : mm

Insulating sleeve   ∅d $\pm$0.05 Tinned copper-ply wire

∅D +0.5 max.

L+β max.   15 min.   4 min.

P $\pm$0.5

∅D	3	4	5	6.3	8
P	1.0	1.5	2.0	2.5	2.5
∅d	0.4	0.45	0.45	0.45	0.45
β	1.0				1.5

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

μF \ WV	4		6.3		10		16		25		35		50		63	
0.1													4×5(3×5)	4.1(3.1)	4×5(3×5)	4.1(3.1)
0.15													4×5(3×5)	5.0(3.8)	4×5(3×5)	5.0(3.8)
0.22													4×5(3×5)	6.1(4.6)	4×5(3×5)	6.1(4.6)
0.33													4×5(3×5)	7.5(5.7)	4×5(3×5)	7.5(5.7)
0.47													4×5(3×5)	8.9(6.7)	4×5(3×5)	8.9(6.7)
0.68													4×5(3×5)	11(8.1)	4×5(3×5)	11(8.1)
1.0													4×5(3×5)	13(9.8)	4×5(3×5)	13(9.8)
1.5													4×5(3×5)	16(12)	4×5	16
2.2											4×5(3×5)	17(13)	4×5	19	4×5	19
3.3									4×5(3×5)	20(15)	4×5	20	4×5	24	5×5	27
4.7							4×5(3×5)	21(16)	4×5	23	4×5	24	5×5	33	5×5	33
6.8					4×5(3×5)	23(19)	4×5	25	4×5	28	5×5	34	5×5	39	6.3×5	46
10	4×5(3×5)	21(17)	4×5(3×5)	25(21)	4×5	28	4×5	31	5×5	40	5×5	41	6.3×5	56	6.3×5	56
15	4×5(3×5)	26(21)	4×5	31	4×5	34	5×5	44	5×5	49	6.3×5	59	6.3×5	68	8×5	81
22	4×5(3×5)	31(26)	4×5	37	5×5	47	5×5	53	6.3×5	69	6.3×5	72	8×5	98	8×5	98
33	4×5	38	5×5	53	5×5	58	6.3×5	76	6.3×5	84	8×5	104	8×5	120		
47	4×5	45	5×5	63	6.3×5	81	6.3×5	91	8×5	119	8×5	124				
68	5×5	63	6.3×5	89	6.3×5	98	6.3×5	109	8×5	143						
100	5×5	89	6.3×5	108	8×5	140	8×5	157	8×5	174						
150	6.3×5	109	8×5	157	8×5	172	8×5	192								
220	6.3×5	133	8×5	190	8×5	208										
330	8×5	192														

Ripple current (mA rms) at 85℃, 120Hz
Case size ∅D×L (mm)