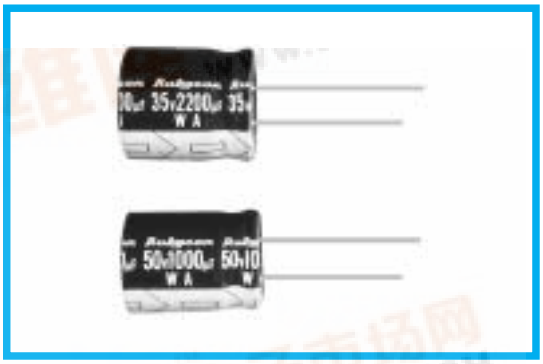
WA SERIES

85℃ Miniaturized low profile.



◆FEATURES

- 9～25mm height.
- RoHS compliance.

WA → 105℃ Version → **WXA**

◆SPECIFICATIONS

Items	Characteristics	
Category Temperature Range	−40～+85℃	−25～+85℃
Rated Voltage Range	6.3～250V.DC	350～450V.DC
Capacitance Tolerance	±20%(20℃, 120Hz)	
Leakage Current(MAX)	6.3～50V.DC	160～450V.DC
	I=0.01CV or 3 μA whichever is greater. (After 2 minutes application of rated voltage)	CV≦1000: I=0.1CV+40μA (1minute) I=0.03CV+15μA (5minutes) / CV＞1000: I=0.04CV+100μA (1minute) I=0.02CV+25μA (5minutes)
	I=Leakage Current(μA) C=Rated Capacitance(μF) V=Rated Voltage(V)	

Dissipation Factor(MAX) (tan δ)

Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450
tan δ	0.26	0.22	0.18	0.16	0.14	0.12	0.20	0.20	0.20	0.20	0.20	0.20

(20℃, 120Hz)

When rated capacitance is over 1000 μF, tan δ shall be added 0.02 to the listed value with increase of every 1000 μF.

Endurance

After applying rated voltage with rated ripple current for 2000hrs at 85℃, the capacitors shall meet the following requirements.

Capacitance Change	Within ±25% of the initial value.
Dissipation Factor	Not more than 200% of the specified value.
Leakage Current	Not more than the specified value.

Low Temperature Stability Impedance Ratio(MAX)

Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450
Z(−25℃)/Z(20℃)	6	4	4	3	2	2	3	3	3	5	5	7
Z(−40℃)/Z(20℃)	12	10	8	6	4	3	—	—	—	—	—	—

(120Hz)

◆MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

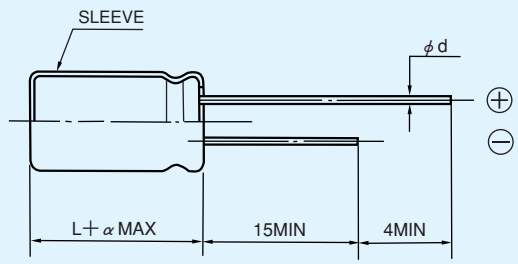
Frequency (Hz)		60(50)	120	500	1k	10k≦
Coefficient	1.5～6.8 μF	0.65	1.0	1.20	1.30	1.50
	10～68 μF	0.8	1.0	1.20	1.30	1.50
	100～1000 μF	0.8	1.0	1.10	1.15	1.20
	2200～10000 μF	0.8	1.0	1.05	1.10	1.15

◆PART NUMBER

□□□ Rated Voltage / WA Series / □□□□□ Rated Capacitance / □ Capacitance Tolerance / □□□ Option / □□ Lead Forming / D×L Case Size

◆DIMENSIONS

(mm)



φD	8	10	12.5	16	18
φd	0.6			0.8	
F	3.5	5.0		7.5	
α	L≦16 : α =1.5 L≧20 : α =2.0				

◆STANDARD SIZE, RATED RIPPLE CURRENT

Size φD×L(mm), Ripple Current (mA r.m.s./85℃, 120Hz)

WV(V.DC) / Cap(μF)	6.3 (0J)		10 (1A)		16 (1C)		25 (1E)		35 (1V)		50 (1H)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
100											8×9	240
150									8×9	260	10×9	320
220							8×9	320	10×9	360		
330					8×9	350	10×9	410	10×9	420		
470	8×9	380	8×9	380	8×9	380	10×9	460			12.5×16	700
680	8×9	420	10×9	510	10×9	510	12.5×16	760	12.5×16	760	16×16	810
1000	10×9	550	10×9	550			12.5×16	940	16×16	950	16×20	1050
2200	12.5×16	1080	12.5×16	1080	16×16	1100	16×20	1400	18×20	1500	18×25	1650
3300	12.5×16	1100	16×16	1120	16×20	1500	18×20	1550	18×25	1850		
4700	18×16	1200	16×20	1550	18×20	1600	18×25	2000				
6800	16×20	1550	18×20	1650	18×25	2050						
10000	18×20	1700	18×25	2150								

WV(V.DC) / Cap(μF)	160 (2C)		200 (2D)		250 (2E)		350 (2V)		400 (2G)		450 (2W)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
1.5											8×9	19
2.2									8×9	35	10×9	29
3.3							8×9	37	10×9	40	10×9	35
4.7	8×9	54	8×9	54	8×9	54	10×9	49	10×9	49		
6.8	8×9	60	8×9	60	10×9	69	12.5×16	94	12.5×16	94	12.5×16	77
10	10×9	85	10×9	85	10×9	85	12.5×16	100	12.5×16	100	16×16	131
22					12.5×16	156	16×16	220	18×16	226	16×20	208
33	12.5×16	175	12.5×16	175	16×16	270	18×16	270	16×20	282	18×20	259
47	12.5×16	220	16×16	313	18×16	330	16×20	330	18×20	350	18×25	333
68	16×16	353	18×16	380	16×20	414	18×25	455	18×25	455		
100	16×20	478	16×20	478	18×20	507						
150	18×20	595	18×25	671	18×25	671						
220	18×25	771										