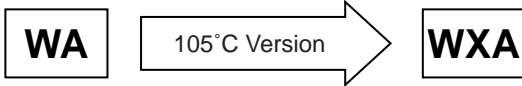


WA SERIES
85°C Miniaturized low profile.
◆ FEATURES

- 9~25mm height.


◆ SPECIFICATIONS

Items	Characteristics	
Operating Temperature Range	-40~+85°C	-25~+85°C
Rated Voltage Range	6.3~250V.DC	350~450V.DC
Capacitance Tolerance	±20%(20°C, 120Hz)	
Leakage Current(MAX)	6.3~50V.DC	160~450V.DC
	I=0.01CV (After 2 minutes application of rated voltage)	I=0.04CV+100μA (1 minute) I=0.02CV+25μA (5 minutes)
	I=Leakage Current(μA) C=Nominal Capacitance(μF) V=Rated Voltage(V)	
Dissipation Factor(MAX)	Rated Voltage (V)	6.3 10 16 25 35 50 160 200 250 350 400 450 (20°C, 120Hz)
	tanδ	0.26 0.22 0.18 0.16 0.14 0.12 0.20 0.20 0.20 0.20 0.20 0.20
	When nominal capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with increase of every 1000μF.	
Load Life	After applying rated voltage with max ripple current for 2000hrs at 85°C, 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 (120Hz)
	Z(-25°C)/Z(20°C)	6 4 4 3 2 2 3 3 3 5 5 7
	Z(-40°C)/Z(20°C)	12 10 8 6 4 3 - - - - -

◆ MULTIPLIER FOR RIPPLE CURRENT

(1) Frequency coefficient

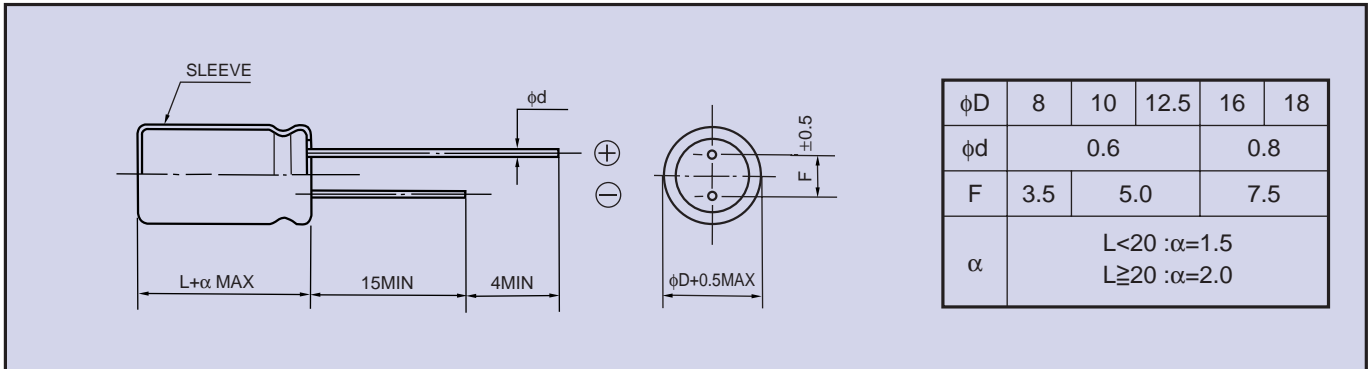
Frequency(Hz)	60(50)	120	500	1k	10k≤	
Coefficient	1.5~68μF	0.8	1.0	1.20	1.30	1.50
	100~1000μF	0.8	1.0	1.10	1.15	1.20
	2200~10000μF	0.8	1.0	1.05	1.10	1.15

(2) Temperature coefficient

Ambient Temperature (°C)	85	70	50≥
Coefficient	1.0	1.6	2.0

◆ DIMENSIONS

(mm)


◆ STANDARD SIZE, MAX. PERMISSIBLE RIPPLE CURRENT

 Size $\phi D \times L$ (mm), Ripple Current (mA r.m.s./85°C, 120Hz)

WV(V.DC) Cap(μ F)	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											8x9	240
150									8x9	260	10x9	320
220							8x9	320	10x9	360		
330					8x9	350	10x9	410	10x9	420		
470	8x9	380	8x9	380	8x9	380	10x9	460			16x16 (12.5x16)	700 (700)
680	8x9	420	10x9	510	10x9	510	12.5x16	760	12.5x16	760	16x16	810
1000	10x9	550	10x9	550			12.5x16	940	16x16	950	16x20	1050
2200	12.5x16	1080	12.5x16	1080	16x16	1100	16x20	1400	18x20	1500	18x25	1650
3300	16x16 (12.5x16)	1120 (1100)	16x16	1120	16x20	1500	18x20	1550	18x25	1850		
4700	18x16	1200	16x20	1550	18x20	1600	18x25	2000				
6800	16x20	1550	18x20	1650	18x25	2050						
10000	18x20	1700	18x25	2150								

WV(V.DC) Cap(μ F)	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											8x9	19
2.2									8x9	35	10x9	29
3.3							8x9	37	10x9	40	10x9	35
4.7	8x9	54	8x9	54	8x9	54	10x9	49	10x9	49		
6.8	8x9	60	8x9	60	10x9	69	12.5x16	94	12.5x16	94	12.5x16	77
10	10x9	85	10x9	85	10x9	85	12.5x16	100	16x16 (12.5x16)	151 (100)	16x16	131
22					16x16 (12.5x16)	220 (156)	16x16	220	18x16	226	16x20	208
33	12.5x16	175	16x16 (12.5x16)	270 (175)	16x16	270	18x16	270	16x20	282	18x20	259
47	16x16 (12.5x16)	313 (220)	16x16	313	18x16	330	16x20	330	18x20	350	18x25	333
68	16x16	353	18x16	380	16x20	414	18x25	455	18x25	455		
100	16x20	478	16x20	478	18x20	507						
150	18x20	595	18x25	671	18x25	671						
220	18x25	771										

() shows compact size. We would like to recommend compact sizes in above table for new design.