

WA SERIES

85°C Low profile.

◆FEATURES

- 9~25mm height.
- RoHS compliance.



◆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 3μA whichever is greater. (After 2 minutes application of rated voltage)								CV≤1000			CV>1000																																								
									I=0.1CV+40μA (1minute) I=0.03CV+15μA (5minutes)			I=0.04CV+100μA (1minute) I=0.02CV+25μA (5minutes)																																								
	I=Leakage Current(μA) C=Capacitance(μF) V=Rated Voltage(V)																																																			
Dissipation Factor(MAX) (tanδ)	<table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>tanδ</td><td>0.26</td><td>0.22</td><td>0.18</td><td>0.16</td><td>0.14</td><td>0.12</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td><td>0.20</td></tr></table>													Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450	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													
	Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450																																							
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																																								
(20℃, 120Hz)																																																				
When capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with increase of every 1000μF.																																																				
Endurance	After applying rated voltage with rated ripple current for 2000 hours 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)	<table><tr><td>Rated Voltage (V)</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td><td>50</td><td>160</td><td>200</td><td>250</td><td>350</td><td>400</td><td>450</td></tr><tr><td>Z(-25℃)/Z(20℃)</td><td>6</td><td>4</td><td>4</td><td>3</td><td>2</td><td>2</td><td>3</td><td>3</td><td>3</td><td>5</td><td>5</td><td>7</td></tr><tr><td>Z(-40℃)/Z(20℃)</td><td>12</td><td>10</td><td>8</td><td>6</td><td>4</td><td>3</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td></tr></table>													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	—	—	—	—	—	—
	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 (Hz)		60(50)	120	500	1k	10k≤
Coefficient	1.5~6.8µF	0.65	1.0	1.20	1.30	1.50
	10~68µF	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

◆OPTION

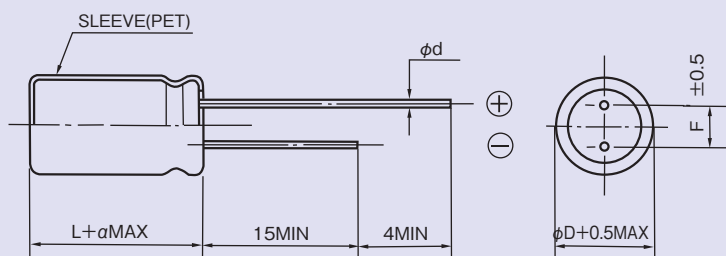
	Code
PET Sleeve	EFC

◆PART NUMBER

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

◆ DIMENSIONS

(mm)



ϕD	8	10	12.5	16	18
ϕd	0.6			0.8	
F	3.5	5.0		7.5	
α	$L \leq 16 : \alpha = 1.5$ $L \geq 20 : \alpha = 2.0$				

◆STANDARD SIZE

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

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								

[illegible]