

**WA SERIES**
**85°C Miniaturized low profile.**
**◆FEATURES**

- 9~25mm height.
- RoHS compliance.


**◆SPECIFICATIONS**

Items	Characteristics																																																		
Category 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 or 3 μA whichever is greater. (After 2 minutes application of rated voltage)	CV ≤ 1000 I=0.1CV+40 μA (1 minute) I=0.03CV+15 μA (5 minutes)	CV > 1000 I=0.04CV+100 μA (1 minute) I=0.02CV+25 μA (5 minutes)																																																
		I=Leakage Current( μA)	C=Rated Capacitance( μF)	V=Rated Voltage(V)																																															
Dissipation Factor(MAX) (tan δ)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>tan δ</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> </tbody> </table>											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°C, 120Hz)													
	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																																							
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°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.																																																	
Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</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°C)/Z(20°C)</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> </tbody> </table>											Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450	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	-	-	-	-	-	-	(120Hz)
	Rated Voltage (V)	6.3	10	16	25	35	50	160	200	250	350	400	450																																						
	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	-	-	-	-	-	-																																							
Leakage Current																																																			

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

Coefficient	Frequency (Hz)	60 (50)	120	500	1k	10k ≤
	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**

□□□	WA	□□□□□	□	□□□	□□	DXL
Rated Voltage	Series	Rated Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

