

RWH Series

- Downsized and high ripple current from RWF series
- Endurance with ripple current : 5,000 hours at 85°C
- RoHS2 Compliant

RWH

↓ Downsized

RWF P7-12



◆ SPECIFICATIONS

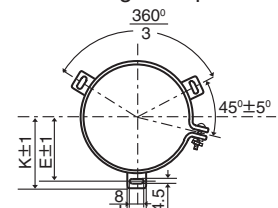
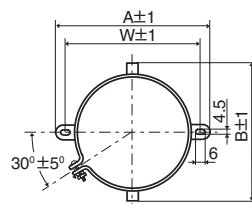
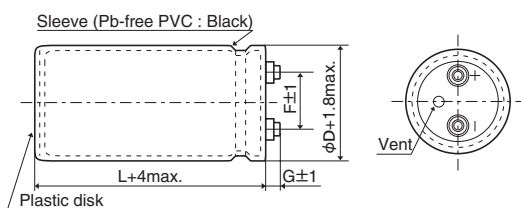
Items	Characteristics								
Category	-25 to +85°C								
Temperature Range									
Rated Voltage Range	350 to 450V _{dc}								
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)								
Leakage Current	I=0.02CV or 5mA, whichever is smaller. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 5 minutes)								
Dissipation Factor (tan δ)	0.25 max. (at 20°C, 120Hz)								
Low Temperature Characteristics	Capacitance change $C(-25^{\circ}\text{C})/C(+20^{\circ}\text{C}) \geq 0.7$ (at 120Hz)								
Insulation Resistance	When measured between the terminals that are connected to each other and to the mounting clamp on the insulating sleeve covering the case by using an insulation resistance meter of 500V _{dc} , the insulation resistance shall not be less than 100MΩ.								
Insulation Withstanding Voltage	When a voltage of 2,000V _{ac} is applied for 1 minute between the terminals that are connected to each other and to the mounting clamp on the insulating sleeve covering the case, there shall not be electrical damage.								
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 5,000 hours at 85°C. <table border="1"> <tr> <td>Capacitance change</td> <td>≤ ±20% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤ 200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ The initial specified value</td> </tr> </table>	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ 200% of the initial specified value	Leakage current	≤ The initial specified value		
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Leakage current	≤ The initial specified value								
Useful life	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 8,000 hours at 85°C. <table border="1"> <tr> <td>Capacitance change</td> <td>≤ ±30% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤ 300% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ The initial specified value</td> </tr> <tr> <td>Failure rate</td> <td>≤ 1%</td> </tr> </table>	Capacitance change	≤ ±30% of the initial value	D.F. (tan δ)	≤ 300% of the initial specified value	Leakage current	≤ The initial specified value	Failure rate	≤ 1%
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D.F. (tan δ)	≤ 300% of the initial specified value								
Leakage current	≤ The initial specified value								
Failure rate	≤ 1%								
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 85°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. <table border="1"> <tr> <td>Capacitance change</td> <td>≤ ±20% of the initial value</td> </tr> <tr> <td>D.F. (tan δ)</td> <td>≤ 200% of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>≤ The initial specified value</td> </tr> </table>	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ 200% of the initial specified value	Leakage current	≤ The initial specified value		
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◆ DIMENSIONS (Screw-Mount) [mm]

● Terminal Code : LG

● Mounting Clamp Code : B

● Mounting Clamp Code : C



φD	A	B	W	F
63.5	90.0	76.0	80.0	28.0
76.2	104.5	90.0	93.5	31.5

φD	E	K	F	J
63.5	38.1	43.5	28.0	14.0
76.2	44.5	50.0	31.5	14.0
89	50.8	56.5	31.5	16.0

φ63.5, φ76.2 : G=6
φ89 : G=4

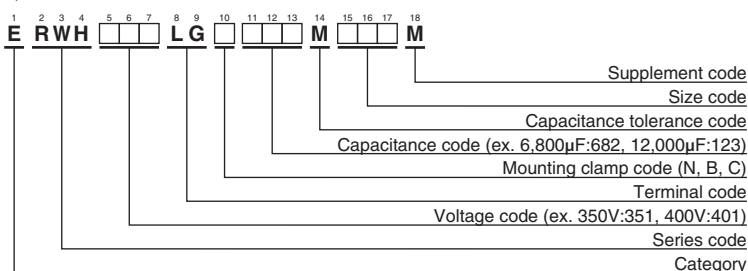
<Screw specifications>

Plus hexagon-headed screw : M5×0.8×10

Maximum screw tightening torque : 3.23Nm

* The screw and the mounting clamp are separately supplied and not attached to the product.

◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (screw-mount terminal type)"

RWH Series

◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/85°C, 120Hz)	Part No.	
350	4,700	63.5 × 105	0.25	16.3	ERWH351LGC472MDA5M	400	8,200	76.2 × 135	0.25	26.5	ERWH401LGC822MED5M	
	5,600	63.5 × 125	0.25	19.2	ERWH351LGC562MDC5M		10,000	76.2 × 160	0.25	31.6	ERWH401LGC103MEG0M	
	6,800	63.5 × 145	0.25	22.6	ERWH351LGC682MDE5M		10,000	89 × 130	0.25	28.3	ERWH401LGC103MFD0M	
	6,800	76.2 × 105	0.25	21.7	ERWH351LGC682MEA5M		12,000	89 × 150	0.25	33.0	ERWH401LGC123MFF0M	
	8,200	63.5 × 165	0.25	26.3	ERWH351LGC822MDG5M		15,000	89 × 180	0.25	39.9	ERWH401LGC153MFJ0M	
	8,200	76.2 × 120	0.25	25.2	ERWH351LGC822MEC0M		450	3,300	63.5 × 105	0.25	13.6	ERWH451LGC332MDA5M
	10,000	76.2 × 140	0.25	29.8	ERWH351LGC103MEE0M			3,900	63.5 × 125	0.25	16.0	ERWH451LGC392MDC5M
	12,000	76.2 × 165	0.25	35.1	ERWH351LGC123MEG5M			4,700	63.5 × 145	0.25	18.7	ERWH451LGC472MDE5M
	15,000	89 × 155	0.25	37.5	ERWH351LGC153MFF5M			4,700	76.2 × 105	0.25	18.0	ERWH451LGC472MEA5M
18,000	89 × 180	0.25	43.8	ERWH351LGC183MFJ0M	5,600	63.5 × 165		0.25	21.7	ERWH451LGC562MDG5M		
400	3,900	63.5 × 100	0.25	14.5	ERWH401LGC392MDA0M	5,600		76.2 × 120	0.25	20.8	ERWH451LGC562MEC0M	
	4,700	63.5 × 120	0.25	17.2	ERWH401LGC472MDC0M	6,800		76.2 × 140	0.25	24.5	ERWH451LGC682MEE0M	
	5,600	63.5 × 135	0.25	19.8	ERWH401LGC562MDD5M	8,200		76.2 × 165	0.25	29.0	ERWH451LGC822MEG5M	
	5,600	76.2 × 105	0.25	19.7	ERWH401LGC562MEA5M	8,200		89 × 135	0.25	26.1	ERWH451LGC822MFD5M	
	6,800	63.5 × 160	0.25	23.5	ERWH401LGC682MDG0M	10,000	89 × 155	0.25	30.5	ERWH451LGC103MFF5M		
	6,800	76.2 × 115	0.25	22.5	ERWH401LGC682MEB5M	12,000	89 × 190	0.25	36.6	ERWH451LGC123MFK0M		

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

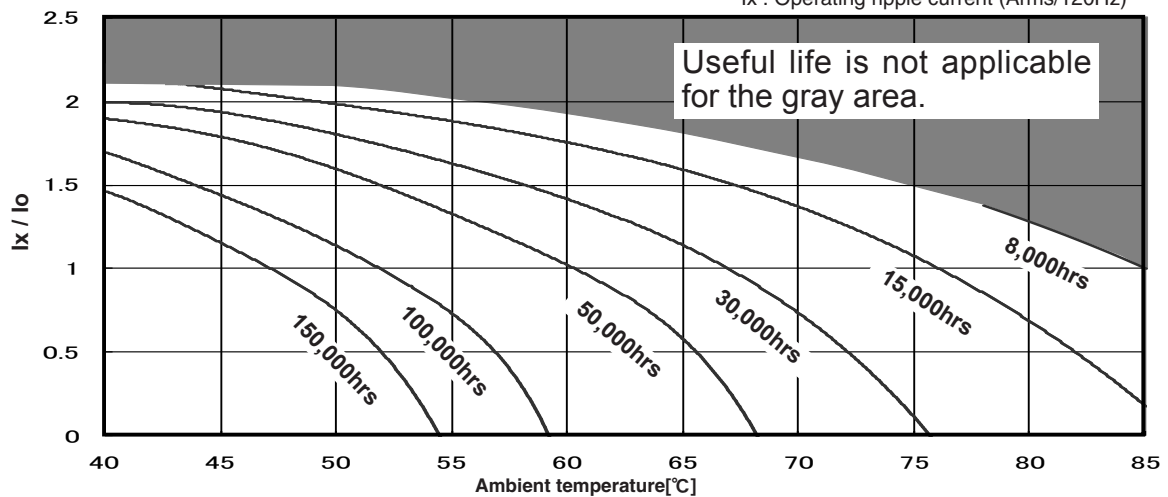
Frequency (Hz)	50	120	300	1k	3k
Coefficient	0.8	1.0	1.1	1.3	1.4

Note : The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5 to 10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced. Also, for the RWH series capacitors, using them at operating voltage less than their rated voltage can extend their lifetime. For details, please contact a representative of Nippon Chemi-Con.

◆USEFUL LIFE

Useful life depending on the ambient temperature Tx under ripple current operating conditions

Io : Rated ripple current (Arms/85°C, 120Hz)
Ix : Operating ripple current (Arms/120Hz)



◆Warning !

Useful life shall indicate the end of the life time without exceeding the specified failure rate. It's generally known that Aluminum Electrolytic Capacitors have wear-out failure mode with gradual deterioration of the electrical parameters and should have large number of the failure rate at the end of life. The useful life time is specified by a certain failure rate. It's not a guaranteed specification.

Generally the maximum life time is 15 years (131,000hours) considering sealing material deteriorate. When a longer life time is required for your application, please consult us.