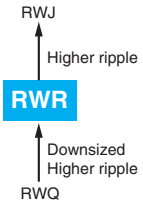
RWR Series

- Downsized and high ripple current from RWQ series
- Endurance with ripple current : 2,000 hours at 85℃
- RoHS2 Compliant

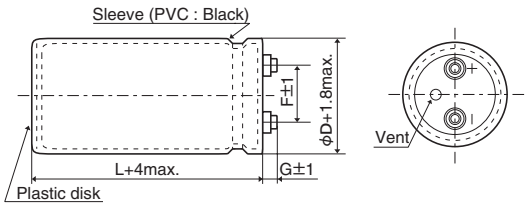


◆SPECIFICATIONS

Items	Characteristics	
Category Temperature Range	-25 to +85℃	
Rated Voltage Range	350 to 450V_{dc}	
Capacitance Tolerance	±20% (M)	(at 20℃, 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℃ after 5 minutes)
Dissipation Factor (tan δ)	0.25 max.	(at 20℃, 120Hz)
Low Temperature Characteristics	Capacitance change C(-25℃)/C(+20℃)≧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℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 2,000 hours at 85℃.	
	Capacitance change	≦±20% of the initial value
	D.F. (tan δ)	≦300% of the initial specified value
	Leakage current	≦The initial specified value
Useful life	The following specifications shall be satisfied when the capacitors are restored to 20℃ 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℃.	
	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%
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 500 hours at 85℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.	
	Capacitance change	≦±20% of the initial value
	D.F. (tan δ)	≦300% of the initial specified value
	Leakage current	≦The initial specified value

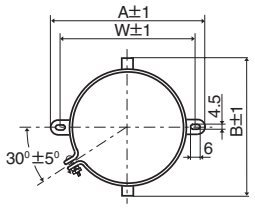
◆DIMENSIONS (Screw-Mount) [mm]

●Terminal Code : LG



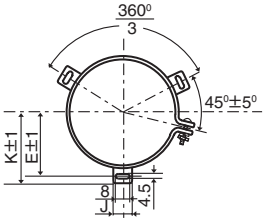
ϕ63.5, ϕ76.2 : G=6
ϕ89 : G=4

●Mounting Clamp Code : B



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

●Mounting Clamp Code : C



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

<Screw specifcations>
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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
E	R	W	R				L	G					M				U

Supplement code
Size code
Capacitance tolerance code
Capacitance code (ex. 6,800μF:682, 12,000μF:123)
Mounting clamp code (N, B, C)
Terminal code
Voltage code (ex. 350V:351, 400V:401)
Series code
Category

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

RWR Series

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 85℃, 120Hz)	Part No.
350	3,900	63.5 × 100	0.25	13.7	ERWR351LGC392MDA0U
	4,700	63.5 × 100	0.25	15.1	ERWR351LGC472MDA0U
	5,600	63.5 × 115	0.25	17.5	ERWR351LGC562MDB5U
	5,600	76.2 × 100	0.25	18.2	ERWR351LGC562MEA0U
	6,800	76.2 × 100	0.25	20.1	ERWR351LGC682MEA0U
	8,200	76.2 × 115	0.25	23.4	ERWR351LGC822MEB5U
	10,000	76.2 × 135	0.25	27.7	ERWR351LGC103MED5U
	12,000	89 × 125	0.25	28.9	ERWR351LGC123MFC5U
	15,000	89 × 150	0.25	34.9	ERWR351LGC153MFF0U
400	3,300	63.5 × 100	0.25	12.6	ERWR401LGC332MDA0U
	3,900	63.5 × 100	0.25	13.7	ERWR401LGC392MDA0U
	4,700	63.5 × 115	0.25	16.0	ERWR401LGC472MDB5U
	4,700	76.2 × 100	0.25	16.7	ERWR401LGC472MEA0U
	5,600	63.5 × 130	0.25	18.4	ERWR401LGC562MDD0U

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 85℃, 120Hz)	Part No.
400	6,800	76.2 × 110	0.25	20.9	ERWR401LGC682MEB0U
	8,200	76.2 × 130	0.25	24.7	ERWR401LGC822MED0U
	10,000	89 × 125	0.25	26.4	ERWR401LGC103MFC5U
	12,000	89 × 145	0.25	30.8	ERWR401LGC123MFE5U
450	2,700	63.5 × 100	0.25	11.4	ERWR451LGC272MDA0U
	3,300	63.5 × 105	0.25	12.9	ERWR451LGC332MDA5U
	3,900	63.5 × 115	0.25	14.6	ERWR451LGC392MDB5U
	3,900	76.2 × 100	0.25	15.2	ERWR451LGC392MEA0U
	4,700	63.5 × 135	0.25	17.2	ERWR451LGC472MDD5U
	4,700	76.2 × 105	0.25	17.0	ERWR451LGC472MEA5U
	5,600	76.2 × 115	0.25	19.3	ERWR451LGC562MEB5U
	6,800	76.2 × 135	0.25	22.8	ERWR451LGC682MED5U
	8,200	89 × 125	0.25	23.9	ERWR451LGC822MFC5U
	10,000	89 × 150	0.25	28.5	ERWR451LGC103MFF0U

◆RATED RIPPLE CURRENT MULTIPLIERS

❶Frequency Multipliers

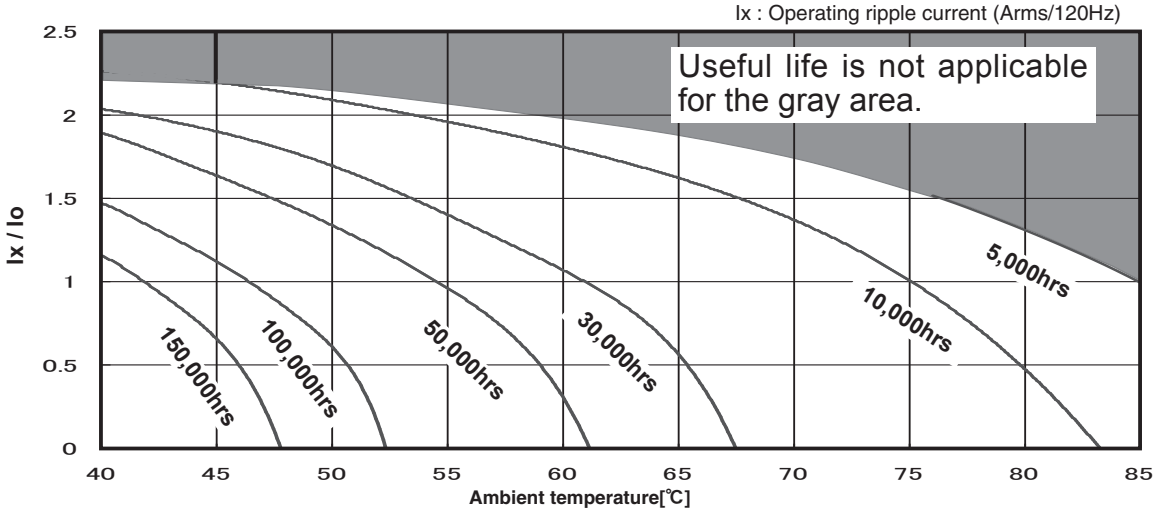
Frequency (Hz)	50	120	300	1k	3k
Coefficient	0.8	1.0	1.1	1.3	1.4

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.
Also, for the RWR 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℃ ,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 deteriorate 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.

■ Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.

■ Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.

■ The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.

■ The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.

■ We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.

■ We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products

■ We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

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