

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

GWC

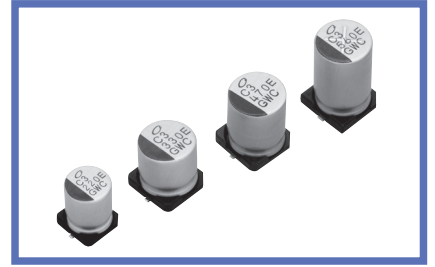
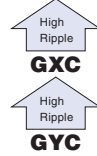
Chip Type, 135°C High Reliability



TENTATIVE

- High Reliability, Low ESR, High ripple current.
- Long life of 4000 hours at 135°C.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

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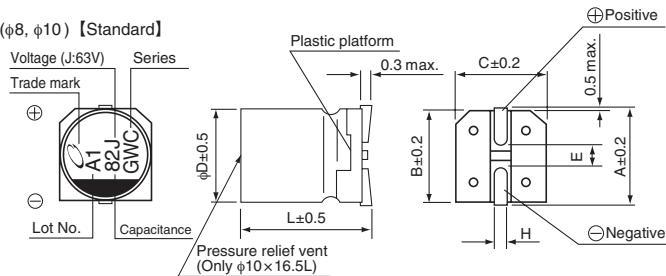


Specifications

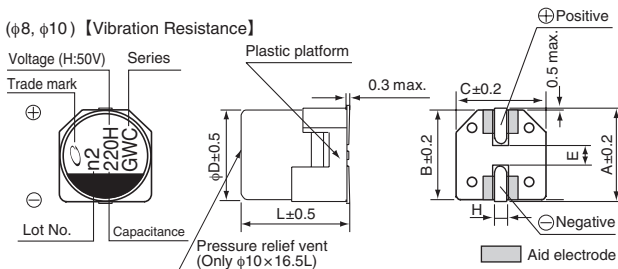
Item	Performance Characteristics											
Category Temperature Range	-55 to +135°C											
Rated Voltage Range	25 to 63V											
Rated Capacitance Range	47 to 560μF											
Capacitance Tolerance	±20% at 120Hz, 20°C											
Tangent of loss angle (tan δ)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table>	Rated voltage (V)	25	35	50	63	tan δ (max.)	0.14	0.12	0.10	0.08	120Hz 20°C
Rated voltage (V)	25	35	50	63								
tan δ (max.)	0.14	0.12	0.10	0.08								
ESR	Less than or equal to the specified value at 100kHz, 20°C											
Leakage Current ※	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(μA).											
Temperature Characteristics (Max. Impedance Ratio)	$Z(-25°C) / Z(+20°C) \leq 2$ $Z(-55°C) / Z(+20°C) \leq 2.5$ (100kHz)											
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 4000 hours at 125°C or 135°C, the peak voltage shall not exceed the rated voltage.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>ESR</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within ±30% of initial capacitance value	tan δ	200% or less of the initial specified value	ESR	200% or less of the initial specified value	Leakage current	Less than or equal to the initial specified value		
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tan δ	200% or less of the initial specified value											
ESR	200% or less of the initial specified value											
Leakage current	Less than or equal to the initial specified value											
Shelf Life	After storing the capacitors under no load at 135°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.											
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C, 85% RH.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within±30% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>200% or less of the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within±30% of the initial capacitance value	tan δ	200% or less of the initial specified value	Leakage current	Less than or equal to the initial specified value				
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tan δ	200% or less of the initial specified value											
Leakage current	Less than or equal to the initial specified value											
Resistance to Soldering Heat	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within±10% of the initial capacitance value</td> </tr> <tr> <td>tan δ</td> <td>Less than or equal to the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </table>	Capacitance change	Within±10% of the initial capacitance value	tan δ	Less than or equal to the initial specified value	Leakage current	Less than or equal to the initial specified value				
Capacitance change	Within±10% of the initial capacitance value											
tan δ	Less than or equal to the initial specified value											
Leakage current	Less than or equal to the initial specified value											
Marking	Black print on the case top.											

Dimensions

(φ8, φ10) [Standard]

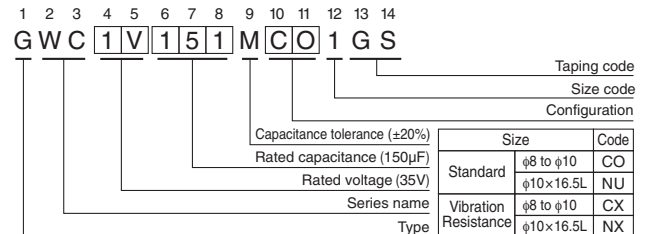


(φ8, φ10) [Vibration Resistance]



※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

Type numbering system (Example : 35V 150μF)



	Standard (mm)				Vibration Resistance (mm)				
φ _{tol}	8×10	10×10	10×12.5	10×16.5	φ _{tol}	8×10	10×10	10×12.5	10×16.5
A	9.0	11.0	11.0	11.0	A	9.0	11.0	11.0	11.0
B	8.3	10.3	10.3	10.3	B	8.3	10.3	10.3	10.3
C	8.3	10.3	10.3	10.3	C	8.3	10.3	10.3	10.3
E	3.1	4.5	4.5	4.5	E	3.1	4.5	4.5	4.5
L	10.3	10.3	12.5	16.5	L	10.5	10.5	12.8	16.8
H	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	1.1 to 1.5	H	1.1 to 1.5	1.1 to 1.5	1.1 to 1.5	1.1 to 1.5

Voltage	V	25	35	50	63
Code	E	V	H	J	

● Frequency coefficient of rated ripple current

Frequency	120Hz	1kHz	10kHz	100kHz or more
Coefficient	0.15	0.40	0.75	1.00

● Dimension table in next page.

Design, specifications are subject to change without notice.

CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

GWC

■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μ F)	Case Size ϕ D \times L (mm)	tan δ	Leakage Current (μ A) (at 20°C after 2 minutes)	ESR (m Ω) max. (20°C/100kHz)	Rated Ripple (mArms)		Part Number
						125°C/ 100kHz	135°C/ 100kHz	
25 (1E)	220	8 \times 10	0.14	55.0	18	4300	3000	GWC1E221MC□1GS
	330	10 \times 10	0.14	82.5	16	5000	3500	GWC1E331MC□1GS
	470	10 \times 12.5	0.14	117.5	14	5300	3700	GWC1E471MC□1GS
	560	10 \times 16.5	0.14	140.0	10	6100	4300	GWC1E561MN□1GS
35 (1V)	150	8 \times 10	0.12	52.5	18	4300	3000	GWC1V151MC□1GS
	270	10 \times 10	0.12	94.5	16	5000	3500	GWC1V271MC□1GS
	330	10 \times 12.5	0.12	115.5	15	5300	3600	GWC1V331MC□1GS
	470	10 \times 16.5	0.12	164.5	11	5800	4100	GWC1V471MN□1GS
50 (1H)	68	8 \times 10	0.10	34.0	24	4000	2700	GWC1H680MC□1GS
	120	10 \times 10	0.10	60.0	20	4700	3000	GWC1H121MC□1GS
	150	10 \times 12.5	0.10	75.0	17	5000	3300	GWC1H151MC□1GS
	220	10 \times 16.5	0.10	110.0	13	5500	3800	GWC1H221MN□1GS
63 (1J)	47	8 \times 10	0.08	29.6	27	3700	2300	GWC1J470MC□1GS
	82	10 \times 10	0.08	51.7	22	4400	2800	GWC1J820MC□1GS
	100	10 \times 12.5	0.08	63.0	17	5000	3300	GWC1J101MC□1GS
	150	10 \times 16.5	0.08	94.5	13	5500	3800	GWC1J151MN□1GS

□ : Enter the appropriate configuration code.

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NICHICON CORPORATION