



# THE DATASHEET OF GYC1V470MCQ1GS

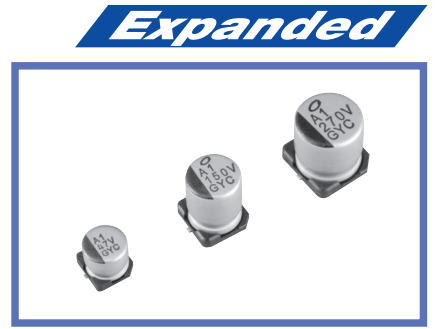
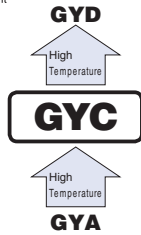


# CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

**GYC** Chip Type, 135°C High Reliability



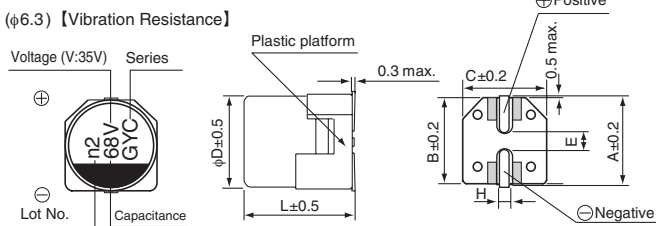
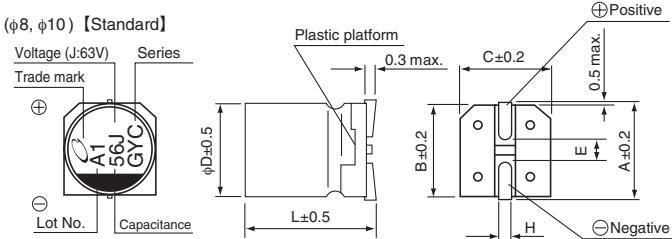
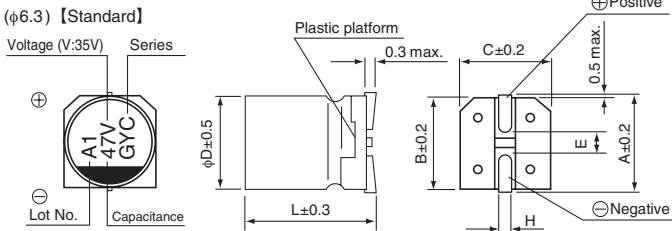
- High Reliability, Low ESR, High ripple current.
- Long life of 2000 to 4000 hours at 135°C.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.



## Specifications

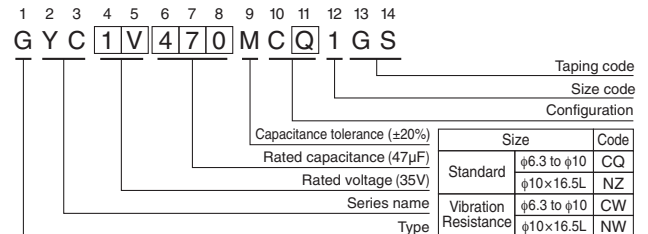
Item	Performance Characteristics													
Category Temperature Range	-55 to +135°C													
Rated Voltage Range	16 to 63V													
Rated Capacitance Range	10 to 560μF													
Capacitance Tolerance	±20% at 120Hz, 20°C													
Tangent of loss angle (tan δ)	<table border="1"> <tr> <td>Rated voltage (V)</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> </tr> <tr> <td>tan δ (max.)</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </table>	Rated voltage (V)	16	25	35	50	63	tan δ (max.)	0.16	0.14	0.12	0.10	0.08	120Hz 20°C
Rated voltage (V)	16	25	35	50	63									
tan δ (max.)	0.16	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 (2000 hours for φD = 6.3) 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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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



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

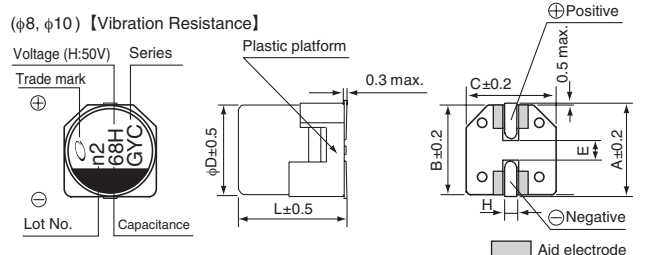
## Type numbering system (Example : 35V 47μF)



Standard	(mm)						Vibration Resistance (mm)				
	φ6.3×5.8	6.3×7.7	8×10	10×10	10×12.5	10×16.5	φ6.3×7.7	8×10	10×10	10×12.5	10×16.5
A	7.3	7.3	9.0	11.0	11.0	11.0	7.3	9.0	11.0	11.0	11.0
B	6.6	6.6	8.3	10.3	10.3	10.3	6.6	8.3	10.3	10.3	10.3
C	6.6	6.6	8.3	10.3	10.3	10.3	6.6	8.3	10.3	10.3	10.3
E	2.2	2.2	3.1	4.5	4.5	4.5	2.2	3.1	4.5	4.5	4.5
L	5.8	7.7	10.3	10.3	12.5	16.5	7.7	10.5	10.5	12.8	16.8
H	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1	0.8 to 1.1	1.1 to 1.5	0.5 to 0.8	1.1 to 1.5	1.1 to 1.5	1.1 to 1.5	1.1 to 1.5

## Frequency coefficient of rated ripple current

Voltage	Frequency	120Hz	1kHz	10kHz	100kHz or more	
V 16 25 35 50 63	Code	C	E	V	H	J
	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



■ Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20°C after 2 minutes)	ESR (mΩ) max. (20°C/100kHz)	Rated Ripple (mArms)		Part Number
						125°C/100kHz	135°C/100kHz	
16 (1C)	82	6.3×5.8	0.16	13.12	50	1500	950	GYC1C820MC□1GS
	150	6.3×7.7	0.16	24.0	30	2000	1500	GYC1C151MC□1GS
	270	8×10	0.16	43.2	25	3100	1700	GYC1C271MC□1GS
	470	10×10	0.16	75.2	20	3400	2100	GYC1C471MC□1GS
25 (1E)	47	6.3×5.8	0.14	11.75	50	1400	900	GYC1E470MC□1GS
	56	6.3×5.8	0.14	14.00	50	1400	900	GYC1E560MC□1GS
	68	6.3×7.7	0.14	17.00	30	1900	1400	GYC1E680MC□1GS
	100	6.3×7.7	0.14	25.00	30	1900	1400	GYC1E101MC□1GS
	150	8×10	0.14	37.50	27	2900	1600	GYC1E151MC□1GS
	220	8×10	0.14	55.00	27	2900	1600	GYC1E221MC□1GS
	270	10×10	0.14	67.50	20	3300	2000	GYC1E271MC□1GS
	330	10×10	0.14	82.50	20	3300	2000	GYC1E331MC□1GS
	470	10×12.5	0.14	117.50	16	3500	2300	GYC1E471MC□1GS
	<b>560</b>	<b>10×16.5</b>	<b>0.14</b>	<b>140.00</b>	<b>12</b>	<b>4800</b>	<b>2900</b>	<b>GYC1E561MN□1GS</b>
35 (1V)	33	6.3×5.8	0.12	11.55	60	1400	900	GYC1V330MC□1GS
	47	6.3×5.8	0.12	16.45	60	1400	900	GYC1V470MC□1GS
	68	6.3×7.7	0.12	23.80	35	1900	1400	GYC1V680MC□1GS
	100	8×10	0.12	35.00	27	2900	1600	GYC1V101MC□1GS
	150	8×10	0.12	52.50	27	2900	1600	GYC1V151MC□1GS
	220	10×10	0.12	77.00	20	3300	2000	GYC1V221MC□1GS
	270	10×10	0.12	94.50	20	3300	2000	GYC1V271MC□1GS
	330	10×12.5	0.12	115.50	16	3500	2300	GYC1V331MC□1GS
	<b>470</b>	<b>10×16.5</b>	<b>0.12</b>	<b>164.50</b>	<b>12</b>	<b>4800</b>	<b>2900</b>	<b>GYC1V471MN□1GS</b>
50 (1H)	22	6.3×5.8	0.10	11.00	80	1100	750	GYC1H220MC□1GS
	33	6.3×7.7	0.10	16.50	40	1600	1100	GYC1H330MC□1GS
	47	8×10	0.10	23.50	30	2200	1250	GYC1H470MC□1GS
	68	8×10	0.10	34.00	30	2200	1250	GYC1H680MC□1GS
	100	10×10	0.10	50.00	28	2600	1600	GYC1H101MC□1GS
	120	10×10	0.10	60.00	28	2600	1600	GYC1H121MC□1GS
	150	10×12.5	0.10	75.00	18	3200	2000	GYC1H151MC□1GS
	<b>220</b>	<b>10×16.5</b>	<b>0.10</b>	<b>110.00</b>	<b>14</b>	<b>4300</b>	<b>2600</b>	<b>GYC1H221MN□1GS</b>
63 (1J)	10	6.3×5.8	0.08	6.30	120	1000	700	GYC1J100MC□1GS
	22	6.3×7.7	0.08	13.86	80	1300	900	GYC1J220MC□1GS
	33	8×10	0.08	20.79	40	1900	1100	GYC1J330MC□1GS
	47	8×10	0.08	29.61	40	1900	1100	GYC1J470MC□1GS
	56	10×10	0.08	35.28	30	2300	1400	GYC1J560MC□1GS
	68	10×10	0.08	42.84	30	2300	1400	GYC1J680MC□1GS
	82	10×10	0.08	51.66	30	2300	1400	GYC1J820MC□1GS
	100	10×12.5	0.08	63.00	20	3000	1900	GYC1J101MC□1GS
	<b>150</b>	<b>10×16.5</b>	<b>0.08</b>	<b>94.50</b>	<b>15</b>	<b>4200</b>	<b>2500</b>	<b>GYC1J151MN□1GS</b>

□ : Enter the appropriate configuration code.

Blue : New product (as of May 2024)

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