CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS nichicon

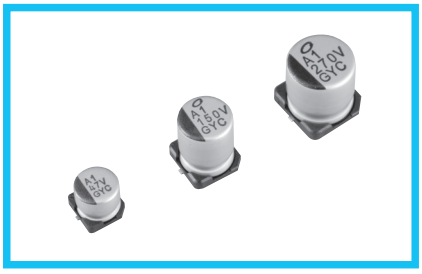
GYC

Chip Type, 135°C High Reliability

For SMD | HR High Ripple Current | Z Low Impedance | L Long Life

- 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.

GYD (High Temperature) / GYC / GYA (High Temperature)



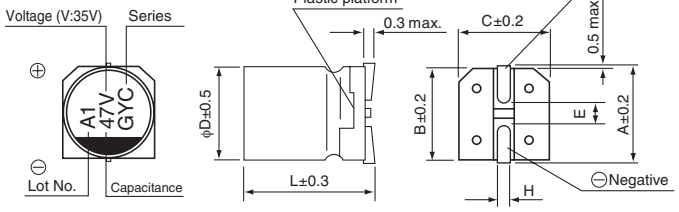
■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +135°C
Rated Voltage Range	16 to 80V
Rated Capacitance Range	10 to 560μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Tangent of loss angle (tan δ)	Rated voltage (V): 16 / 25 / 35 / 50 / 63 / 80 — tan δ (max.): 0.16 / 0.14 / 0.12 / 0.10 / 0.08 / 0.08 — 120Hz 20°C
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). 80V: After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.05CV(μA).
Temperature Characteristics (Max.Impedance Ratio)	Z(−25°C) / Z(+20°C) ≦ 2 Z(−55°C) / Z(+20°C) ≦ 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. 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
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. 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
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. 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.

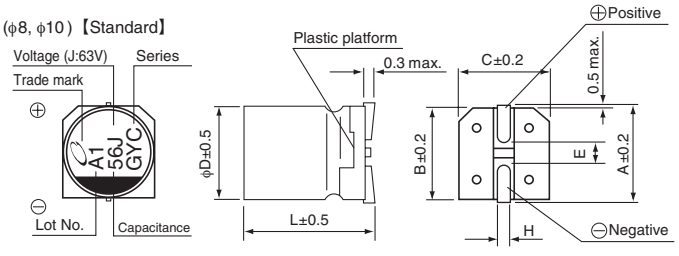
※ I : Leakage Current(μA), C : Rated Capacitance(μF), V : Rated Voltage(V)

■Dimensions

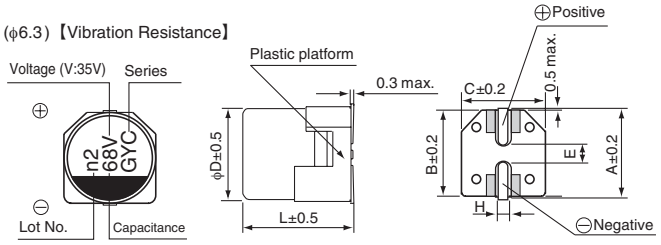
(φ6.3)【Standard】



(φ8, φ10)【Standard】



(φ6.3)【Vibration Resistance】



●Dimension table in next page.

Type numbering system (Example : 35V 47μF)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
G	Y	C	1	V	4	7	0	M	C	Q	1	G	S

Taping code
Size code
Configuration
Capacitance tolerance (±20%)
Rated capacitance (47μF)
Rated voltage (35V)
Series name
Type

Size	Code
Standard	CQ NZ(16.5L)
Vibration Resistance	CW NW(16.5L)

Standard (mm)

φD×L	6.3×5.8	6.3×7.7	8×10	10×10	10×12.5	10×16.5
A	7.3	7.3	9.0	11.0	11.0	11.0
B	6.6	6.6	8.3	10.3	10.3	10.3
C	6.6	6.6	8.3	10.3	10.3	10.3
E	2.2	2.2	3.1	4.5	4.5	4.5
L	5.8	7.7	10.3	10.3	12.5	16.5
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

Vibration Resistance (mm)

φD×L	6.3×7.7	8×10	10×10	10×12.5	10×16.5
A	7.3	9.0	11.0	11.0	11.0
B	6.6	8.3	10.3	10.3	10.3
C	6.6	8.3	10.3	10.3	10.3
E	2.2	3.1	4.5	4.5	4.5
L	7.7	10.5	10.5	12.8	16.8
H	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

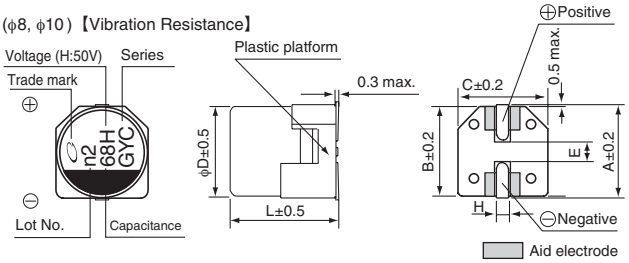
Voltage

V	16	25	35	50	63	80
Code	C	E	V	H	J	K

● Frequency coefficient of rated ripple current

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

(φ8, φ10)【Vibration Resistance】



CAT.8100N

GYC

■Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L(mm)	tan δ	Leakage Current (μA) (at 20℃ after 2 minutes)	ESR(mΩ)max. (20℃/100kHz)	Rated Ripple (mArms) 125℃/100kHz	Rated Ripple (mArms) 135℃/100kHz	Part Number
16 (1C)	82	6.3×5.8	0.16	13.12	50	1500	950	GYC1C820MCQ1GS
	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
	560	**10×12.5**	**0.16**	**89.6**	**16**	**3600**	**2400**	**GYC1C561MC□1GS**
25 (1E)	47	6.3×5.8	0.14	11.75	50	1400	900	GYC1E470MCQ1GS
	56	6.3×5.8	0.14	14.00	50	1400	900	GYC1E560MCQ1GS
	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
	560	**10×16.5**	**0.14**	**140.0**	**12**	**4800**	**2900**	**GYC1E561MN□1GS**
35 (1V)	33	6.3×5.8	0.12	11.55	60	1400	900	GYC1V330MCQ1GS
	47	6.3×5.8	0.12	16.45	60	1400	900	GYC1V470MCQ1GS
	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
	470	**10×16.5**	**0.12**	**164.5**	**12**	**4800**	**2900**	**GYC1V471MN□1GS**
50 (1H)	22	6.3×5.8	0.10	11.00	80	1100	750	GYC1H220MCQ1GS
	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
	220	**10×16.5**	**0.10**	**110.0**	**14**	**4300**	**2600**	**GYC1H221MN□1GS**
63 (1J)	10	6.3×5.8	0.08	6.30	120	1000	700	GYC1J100MCQ1GS
	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
	150	**10×16.5**	**0.08**	**94.5**	**15**	**4200**	**2500**	**GYC1J151MN□1GS**
80 (1K)	**22**	**8×10**	**0.08**	**88.0**	**45**	**1600**	**1100**	**GYC1K220MC□1GS**
	33	**10×10**	**0.08**	**132.0**	**36**	**1900**	**1300**	**GYC1K330MC□1GS**
	47	**10×10**	**0.08**	**188.0**	**36**	**1900**	**1300**	**GYC1K470MC□1GS**
	56	**10×12.5**	**0.08**	**224.0**	**24**	**2800**	**1800**	**GYC1K560MC□1GS**

□ : Enter the appropriate configuration code.

Blue : New product (as of October 2024)

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.

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