ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

GQ

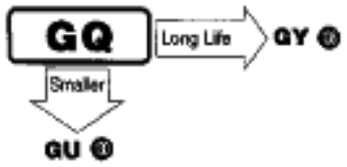
Snap-in Terminal Type, Wide Temperature Range

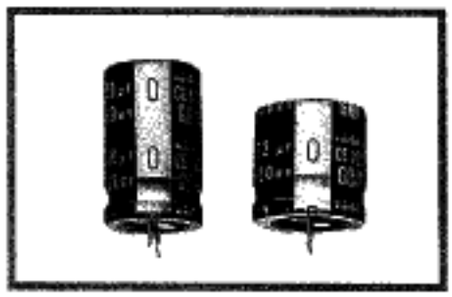
Series

RCJ Approved Anti-Solvent Feature (Through 180# strip)

Approved by Reliability Center for Electronic Component. Japan-Certification No.RCJ-03-24C

- Standard snap-in terminal series.
- Extended capacitance ranges based on the numerical values in E12 series under JIS.





■Specifications

Item	Performance Characteristics
Operating Temperature Range	−40~+105℃ (16~250V), −25~+105℃ (315~450V)
Voltage Range	16~450V
Capacitance Range	56~47000 μF
Capacitance Tolerance	±20% at 120Hz, 20℃
Leakage Current	I≦3√CV (μA) (After 5 minutes' application of rated voltage) (C : Capacitance (μF), V : Voltage (V))
tan δ	Measurement frequency : 120Hz, Temperature : 20℃

Rated voltage (V)	16	25	35	50	63	80	100	160	180	200	250	315	400	450
tan δ (MAX.)	0.50	0.40	0.35	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.15	0.25	0.25	0.25

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage (V)		16~100	160~250	315~450
Impedance ratio ZT/Z20 (MAX.)	Z−25℃/Z+20℃	4	3	8
	Z−40℃/Z+20℃	15	12	—

Load Life

After an application of DC voltage (in the range of rated DC voltage even after over-lapping the specified ripple current) for 2000 hours at 105℃, capacitors shall meet the characteristics requirements indicated at right.

Capacitance change	Within ±20% of initial value
tan δ	200% or less of initial specified value
Leakage current	Initial specified value or less

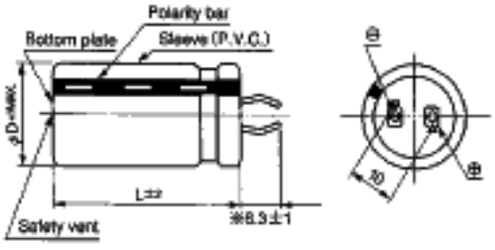
Shelf Life

After leaving capacitors under no load at 105℃ for 1000 hours they meet the requirements listed at right.

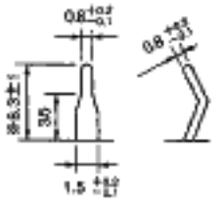
Capacitance change	Within ±15% of initial value
tan δ	150% or less of initial specified value
Leakage current	Initial specified value or less

Marking	Printed with white color letter on dark brown sleeve
Applicable Standards	JIS C-5141 and JIS C-5102.

■Drawing



(PC board hole dimensions)



(Terminal dimensions)

※Shorter terminal (4.0±0.5) is also available upon request.
Please refer page 130 (GU series) for schematic of dimensions.

Type numbering system (Example : 450V 150 μF)

1	2	3	4	5	6	7	8	9	10	11	12
L	G	Q	2	W	1	5	1	M	H	S	A

- 12: Case dia. code
- 10, 11: Configuration
- 9: Capacitance tolerance (±20%)
- 5~8: Capacitance (150 μF)
- 4: Rated voltage (450V)
- 2, 3: Series name
- 1: Type

φD	Code
22	Z
25	A
30	B
35	C

● Frequency coefficient of allowable ripple current

Frequency (Hz)		50	60	120	1 k	10k~
Coef.	16 ~ 100V	0.88	0.90	1.00	1.15	1.16
	160 ~ 250V	0.95	0.88	1.00	1.15	1.20
	315 ~ 450V	0.88	0.90	1.00	1.10	1.15

● Dimension table in next page.

GQ series

Dimensions

DXL (mm)

Cap. (μF) \ V (Code) / ΦD	16 (1C)				25 (1E)				35 (1V)				50 (1H)			
	22	25	30	35	22	25	30	35	22	25	30	35	22	25	30	35
1800 (182)													22×25			
													1.31			
2700 (272)													22×30	25×25		
													1.70	1.70		
3300 (332)									22×25				22×35	25×30		
									1.43				1.98	2.00		
3900 (392)									22×30				22×40	25×35	30×25	
									1.65				2.25	2.28	2.22	
4700 (472)					22×25				22×35	25×25			22×45	25×40	30×30	
					1.55				1.89	1.78			2.56	2.61	2.58	
5600 (562)					22×30				22×35	25×30	30×25		22×50	25×40	30×35	
					1.76				2.02	2.04	2.12		2.89	2.81	2.95	
6800 (682)	22×25				22×30	25×25			22×40	25×35				25×50	30×40	35×30
	1.60				1.91	1.91			2.28	2.31				3.37	3.39	3.31
8200 (822)	22×30				22×35	25×30	30×25		22×50	25×40	30×30				30×45	35×35
	1.85				2.14	2.16	2.25		2.67	2.60	2.56				3.71	3.66
10000 (103)	22×30	25×25			22×40	25×35				25×45	30×35				30×50	35×40
	1.99	1.99			2.40	2.44				2.92	2.92				4.09	4.07
12000 (123)	22×35	25×30	30×25		22×45	25×40	30×30			25×50	30×40	35×30				35×45
	2.28	2.30	2.38		2.69	2.74	2.70			3.26	3.28	3.20				4.50
15000 (153)	22×40	25×35				25×45	30×35	35×30			30×45	35×35				
	2.64	2.68				3.15	3.13	3.22			3.74	3.69				
18000 (183)	22×45	25×40	30×30			25×50	30×40					35×40				
	2.98	3.04	3.00			3.54	3.54					4.16				
22000 (223)		25×45	30×35				30×45	35×35				35×50				
		3.40	3.39				4.24	3.96				4.92				
27000 (273)		25×50	30×40	35×30				35×45								
		3.81	3.83	3.74				4.75								
33000 (333)			30×45	35×35				35×50								
			4.30	4.24				5.39								
39000 (393)			30×50	35×40												
			4.74	4.72												
47000 (473)				35×45												
				5.27												

Cap. (μF) \ V (Code) / ΦD	63 (1J)				80 (1K)				100 (2A)			
	22	25	30	35	22	25	30	35	22	25	30	35
560 (561)									22×25			
									1.07			
820 (821)					22×25				22×30	25×25		
					1.11				1.35	1.35		
1000 (102)					22×30	25×25			22×35	25×30		
					1.29	1.29			1.54	1.56		
1200 (122)	22×25				22×30	25×25			22×40	25×35	30×25	
	1.25				1.39	1.39			1.74	1.76	1.71	
1500 (152)	22×30	25×25			22×35	25×30			22×45	25×40	30×30	
	1.44	1.44			1.61	1.62			1.99	2.03	2.00	
1800 (182)	22×30	25×25			22×40	25×35	30×25			25×45	30×35	
	1.52	1.52			1.83	1.86	1.81			2.28	2.27	
2200 (222)	22×35	25×30			22×45	25×35	30×30			25×50	30×40	35×30
	1.73	1.75			2.09	2.01	2.10			2.57	2.59	2.52
2700 (272)	22×40	25×35	30×25			25×45	30×35				30×45	35×35
	1.97	1.99	1.93			2.43	2.43				2.94	2.90
3300 (332)	22×50	25×40	30×30			25×50	30×40	35×30			30×50	35×40
	2.32	2.27	2.24			2.76	2.78	2.71			3.32	3.31
3900 (392)		25×45	30×35				30×45	35×35				35×45
		2.54	2.55				3.12	3.07				3.89
4700 (472)		25×50	30×40	35×30			30×50	35×40				35×50
		2.88	2.90	2.83			3.52	3.50				4.14
5600 (562)			30×45	35×35				35×45				
			3.28	3.24				3.87				
6800 (682)			30×50	35×40				35×50				
			3.79	3.71				4.19				
8200 (822)				35×45								
				4.16								
10000 (103)				35×50							Case size	
				4.69							Allowable ripple	

Allowable Ripple (A rms) at 105°C 120Hz

GQ series

Dimensions

DXL (mm)

Cap. (μF)	V (Code) / Size (φD)	160 (2C) 22	160 (2C) 25	160 (2C) 30	160 (2C) 35	180 (2Z) 22	180 (2Z) 25	180 (2Z) 30	180 (2Z) 35	200 (2D) 22	200 (2D) 25	200 (2D) 30	200 (2D) 35	250 (2E) 22	250 (2E) 25	250 (2E) 30	250 (2E) 35
150	151													22×25			
														0.65			
180	181													22×25			
														0.75			
220	221													22×30	25×25		
														0.85	0.85		
270	271	22×25				22×25				22×25				22×35	25×30	30×25	
		0.90				0.90				0.90				1.00	1.00	1.00	
330	331	22×25				22×30				22×30	25×25			22×40	25×30	30×25	
		1.00				1.05				1.05	1.05			1.10	1.10	1.10	
390	391	22×30				22×30	25×25			22×35	25×30			22×45	25×40	30×30	
		1.15				1.20	1.20			1.25	1.25			1.25	1.25	1.25	
470	471	22×35	25×25			22×35	25×30			22×40	25×30	30×25		22×50	25×40	30×35	35×25
		1.30	1.30			1.30	1.30			1.35	1.35	1.35		1.30	1.30	1.30	1.30
560	561	22×40	25×30			22×40	25×35	30×25		22×45	25×35	30×30			25×50	30×35	35×30
		1.45	1.45			1.40	1.40	1.40		1.50	1.50	1.50			1.55	1.55	1.55
680	681	22×45	25×35	30×25		22×45	25×40	30×30		22×50	25×45	30×30	35×25			30×45	35×35
		1.65	1.65	1.65		1.65	1.65	1.65		1.70	1.70	1.70	1.70			1.80	1.80
820	821	22×50	25×40	30×30	35×25	22×50	25×45	30×35	35×25		25×50	30×35	35×30				35×40
		1.80	1.80	1.80	1.80	1.85	1.85	1.85	1.85		1.90	1.90	1.90				1.95
1000	102		25×45	30×35	35×30		25×50	30×40	35×30			30×45	35×35				35×45
			2.00	2.00	2.00		2.05	2.05	2.05			2.15	2.15				2.30
1200	122		25×50	30×40	35×30			30×45	35×35			30×50	35×35				35×50
			2.30	2.30	2.30			2.30	2.30			2.30	2.30				2.65
1500	152			30×45	35×35			30×50	35×40				35×45				
				2.65	2.65			2.70	2.70				2.75				
1800	182			30×50	35×45				35×45				35×50				
				3.05	3.05				3.15				3.25				
2200	222				35×50				35×50								
					3.50				3.60								

Cap. (μF)	V (Code) / Size (φD)	315 (2F) 22	315 (2F) 25	315 (2F) 30	315 (2F) 35	400 (2G) 22	400 (2G) 25	400 (2G) 30	400 (2G) 35	450 (2W) 22	450 (2W) 25	450 (2W) 30	450 (2W) 35
56	560									22×25			
										0.41			
68	680					22×25				22×30	25×25		
						0.40				0.48	0.48		
82	820	22×25				22×30	25×25			22×35			
		0.46				0.50	0.50			0.56			
100	101	22×30				22×35	25×30			22×40	25×30	30×25	
		0.55				0.55	0.55			0.64	0.61	0.63	
120	121	22×30	25×25			22×40	25×30	30×25		22×45	25×35		
		0.60	0.60			0.60	0.60	0.60		0.72	0.71		
150	151	22×35	25×30	30×25		22×45	25×35	30×30		22×50	25×40	30×30	35×25
		0.70	0.70	0.70		0.70	0.70	0.70		0.83	0.81	0.80	0.82
180	181	22×40	25×30	30×25		22×50	25×40	30×30	35×25		25×45	30×35	
		0.83	0.78	0.82		0.85	0.85	0.85	0.85		0.92	0.91	
220	221	22×45	25×35	30×30			25×45	30×35	35×30		25×50	30×40	35×30
		0.90	0.90	0.90			0.90	0.90	0.90		1.05	1.05	1.03
270	271	22×50	25×40	30×35	35×25		25×50	30×40	35×30			30×45	35×35
		1.00	1.00	1.00	1.00		1.00	1.00	1.00			1.21	1.19
330	331		25×50	30×35	35×30			30×45	35×35			30×50	35×40
			1.25	1.25	1.25			1.25	1.25			1.38	1.38
390	391			30×40	35×35			30×50	35×40				35×45
				1.35	1.35			1.35	1.35				1.55
470	471			30×50	35×40				35×45				35×50
				1.45	1.45				1.45				1.74
560	561				35×45				35×50				
					1.65				1.65				
680	681				35×50							Case size	
					1.90							Allowable ripple	

Allowable Ripple (A rms) at 105℃ 120Hz