ALUMINUM ELECTROLYTIC CAPACITORS

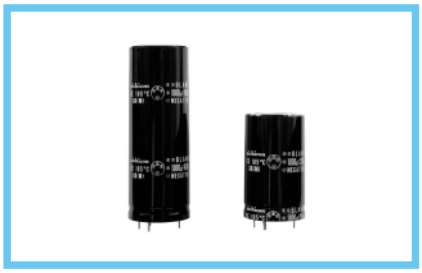
nichicon

GK HH series

PC Board Mounting Type

Anti-Solvent Feature
(Through 100V only)

- Higher C/V products.
- Plentiful line-up from ϕ35 × 63 to ϕ40 × 100mm.
- Auxiliary terminals provided to assure anti-vibration performamance.
- Adapted to the RoHS directive (2002/95/EC).



GK HH ← High C/V — GU

■Specifications

Item	Performance Characteristics
Category Temperature Range	– 40 ~ +105°C (16 ~ 250V) , – 25 ~ +105°C (400V)
Rated Voltage Range	16 ~ 400V
Rated Capacitance Range	560 ~ 68000μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	$I \leqq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage) [C : Rated Capacitance (μF) V : Voltage (V)]
tan δ	Measurement frequency : 120Hz, Temperature : 20°C

Rated voltage(V)	16	25	35	50	63	80	100	160	200	250	400
tan δ (MAX.)	0.60	0.50	0.40	0.35	0.30	0.30	0.25	0.20	0.15	0.15	0.30

Stability at Low Temperature — Measurement frequency : 120Hz

Rated voltage(V)		16 ~ 250	400
Impedance ratio ZT/Z20 (MAX.)	Z–25°C/Z+20°C	4	8
	Z–40°C/Z+20°C	15	—

Endurance

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°C, capacitors meet the characteristic requirements listed 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

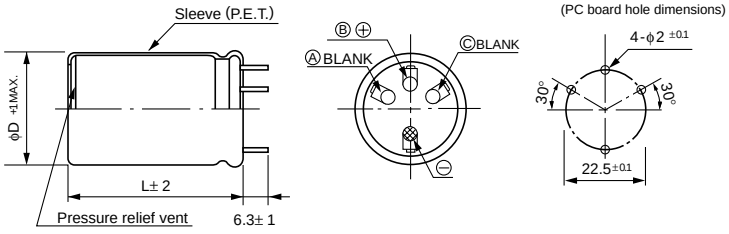
After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the requirements listed at right.

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 black sleeve.

■Drawing

● For all of ϕ35mm products and for 63mmL or shorter with ϕ40mm.



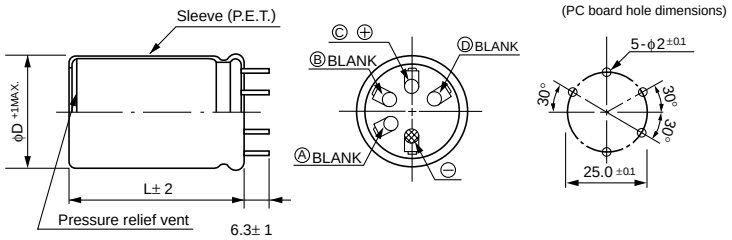
Type numbering system (Example : 200V 2700μF)

1	2	3	4	5	6	7	8	9	10	11	12
L	G	K	2	D	2	7	2	M	E	H	D

- 12: Case dia. code
- 11: Configuration
- 10: Capacitance tolerance (± 20%)
- 9–8: Rated Capacitance (2700μF)
- 7–5: Rated voltage (200V)
- 4–3: Series name
- 2–1: Type

ϕD	Code
35	C
40	D

● For 63mmL or longer with ϕ40mm.



Notes:
As blank terminals are not insulated from capacitor element, they shall be mounted on independent lands.

●Frequency coefficient of rated ripple current

Frequency (Hz)		50	60	120	1 k	10k~
Coeff.	16 ~ 100V	0.88	0.90	1.00	1.15	1.15
	160 ~ 250V	0.85	0.88	1.00	1.15	1.20
	400V	0.88	0.90	1.00	1.10	1.15

Minimum order quantity : 50pcs.

● Dimension table in next page.

GK HH series

■Dimensions

Cap.(μF) \ V(Code) / Code / φD	16V (1C)		25V (1E)		35V (1V)		50V (1H)	
	35	40	35	40	35	40	35	40
18000 / 183							35×68	40×63
							5.55	5.80
22000 / 223					35×63	40×50	35×80	40×63
					5.10	5.00	6.35	6.15
27000 / 273					35×68	40×63		
					5.50	5.80		
33000 / 333			35×63	40×50	35×80	40×63		
			5.60	5.50	6.25	6.05		
39000 / 393			35×68	40×63				
			6.00	6.30				
47000 / 473	35×63	40×50	35×80	40×63				
	5.90	5.75	6.80	6.60				
56000 / 563	35×68	40×63						
	6.20	6.45						
68000 / 683	35×80	40×63						
	6.90	6.70						

Cap.(μF) \ V(Code) / Code / φD	63V (1J)		80V (1K)		100V (2A)	
	35	40	35	40	35	40
5600 / 562					35×68	40×63
					4.40	4.55
6800 / 682					35×80	40×63
					4.80	4.65
8200 / 822			35×63	40×50		
			4.75	4.65		
10000 / 103			35×80	40×63		
			5.45	5.00		
12000 / 123	35×63	40×50				
	5.35	5.25				
15000 / 153	35×68	40×63				
	5.85	6.10				

Cap.(μF) \ V(Code) / Code / φD	160V (2C)		200V (2D)		250V (2E)		400V (2G)	
	35	40	35	40	35	40	35	40
560 / 561							35×63	40×50
							1.75	1.70
680 / 681							35×80	40×63
							2.05	2.00
820 / 821							35×80	
							2.20	
1000 / 102							35×100	40×80
							2.65	2.60
1200 / 122					35×63	40×50		40×100
					2.75	2.70		3.00
1500 / 152					35×68	40×63		
					3.20	3.35		
1800 / 182			35×63	40×50	35×100	40×80		
			3.30	3.20	4.05	3.95		
2200 / 222	35×63	40×50	35×80	40×63	35×100	40×80		
	3.50	3.45	3.90	3.80	4.35	4.20		
2700 / 272	35×68	40×63	35×100	40×80		40×100		
	3.90	4.10	4.65	4.50		5.00		
3300 / 332	35×80	40×63		40×80				
	4.55	4.40		4.90				
3900 / 392	35×100	40×80		40×100				
	5.30	5.20		5.70				
4700 / 472		40×100					Case size φD×L (mm)	
		6.15					Rated ripple	

Rated Ripple (Arms) at 105°C 120Hz