

# SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

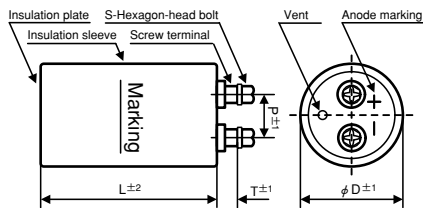
## HCG7A Series

Useful of 4,000 hours at 85°C (Warranty of 2,000 hours at 85°C)

• Conform RoHS

### Features

- The size is reduced by 15% of the HCG6 type through improvement of etched foil technology and the same level of permissible ripple current as that of the HCG6 type is provided.



(unit : mm)

φ D	P	S	T	Cap material
36	12.7	M5×10	7.0	PPS
51	22.0	M5×10	5.5	Phenol
64	28.6	M5×10	5.5	Phenol
77	32.0	M5×10	5.0	Phenol

### Product Specifications

Items	Specifications
Temperature range	-25°C ~ +85°C
Rated voltage	6.3 ~ 250V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.01CV (μA) or 5mA, whichever is smaller or less [C = nominal capacitance (μF), V = rated voltage (V)]
Dissipation factor	Less than the value specified in the standard products table. (20°C,120Hz)
Permissible ripple current	As specified in the standard products table. (40°C,120Hz)
High-temperature load	After the rated voltage with specified ripple current is applied at 85°C for 2000 hours: Capacitance tolerance: ±15% or less of the initial value Dissipation factor: 175% or less of the specified initial value Leakage current: Specified initial value or less
Others	JIS C 5101-4.

### Ripple current correction coefficient

Temperature (°C)	40	60	70	85	
Correction coefficient	1.0	0.81	0.62	0.37	
Frequency (Hz)	50/60	120	300	1k	≥10K
Correction coefficient	0.8	1.0	1.1	1.3	1.4

Ripple current should be under 60 Arms at M5 terminal in accordance with from the permissible current.

Product code : (Example) HCG7A type 250 V 10,000μF±20%

**HCG7A 2E 103 Y PH**

Type of series

Sealing code  
Type of bracket code  
Capacitance code  
Rated voltage code

### Bracket

- See page 51 for shapes and dimensions.
- Product names in the Standard Products Table correspond to the bracket for Type Y (Type I for φ36 only), but Type I bracket may be used (Type of bracket Code = I).
- If bracket are not necessary, enter "N" for the type of bracket code.
- Bracket will be delivered separately.

### Standard Products Table

Rated Voltage Code (Surge Voltage) (V.DC)	Capacitance (μF)	Case size φDXL(mm)	tanδ 20°C, 120Hz	Ripple current 40°C, 120Hz (Arms)	ESR(typ.) 20°C, 100Hz (mΩ)	Z max 20°C, 10kHz (mΩ)	ESL(typ.) (nH)	Product name
6.3 0J (8)	47000	36×53	1.00	13.4	47	40	18	HCG7A0J473 I PPS
	68000	36×65	1.20	14.8	33	30	18	HCG7A0J683 I PPS
	100000	36×83	1.20	19.7	22	22	18	HCG7A0J104 I PPS
	150000	51×83	1.40	25.6	15	16	21	HCG7A0J154YPH
	220000	51×100	1.40	33.5	11	12	21	HCG7A0J224YPH
	330000	64×100	1.50	43.6	8	9	22	HCG7A0J334YPH
	470000	64×121	1.80	50.8	7	8	22	HCG7A0J474YPH
	680000	77×121	2.90	54.4	5	7	24	HCG7A0J684YPH
10 1A (13)	33000	36×53	0.90	11.9	25	26	18	HCG7A1A333 I PPS
	47000	36×65	0.90	15.2	18	19	18	HCG7A1A473 I PPS
	68000	36×83	1.20	20.3	13	14	18	HCG7A1A683 I PPS
	100000	36×121	1.20	25.0	11	12	18	HCG7A1A104 I PPS
	150000	51×83	1.40	27.6	7	7	21	HCG7A1A154YPH
	220000	51×121	1.50	37.6	5	6	21	HCG7A1A224YPH
	330000	64×121	1.80	46.5	5	6	22	HCG7A1A334YPH
	470000	77×121	2.30	52.0	4	6	24	HCG7A1A474YPH
16 1C (20)	22000	36×53	0.80	11.2	25	26	18	HCG7A1C223 I PPS
	33000	36×65	0.80	14.8	17	18	18	HCG7A1C333 I PPS
	47000	36×83	0.80	19.6	12	13	18	HCG7A1C473 I PPS
	68000	36×121	1.10	27.7	11	12	18	HCG7A1C683 I PPS
	100000	51×83	1.10	29.4	8	8	21	HCG7A1C104YPH
	150000	51×121	1.20	34.0	5	6	21	HCG7A1C154YPH
	220000	64×100	1.40	39.7	4	6	22	HCG7A1C224YPH
	330000	77×121	1.80	49.2	4	6	24	HCG7A1C334YPH
25 1E (32)	22000	36×65	0.50	12.1	22	23	18	HCG7A1E223 I PPS
	33000	36×83	0.90	14.2	15	16	18	HCG7A1E333 I PPS
	47000	36×121	0.90	19.8	10	11	18	HCG7A1E473 I PPS
	68000	51×100	0.90	25.1	7	8	21	HCG7A1E683YPH
	100000	51×121	0.90	28.5	6	6	21	HCG7A1E104YPH
	150000	64×100	1.20	34.7	5	6	22	HCG7A1E154YPH
	220000	64×144	1.20	48.9	4	5	22	HCG7A1E224YPH
	330000	77×144	1.40	52.7	4	5	24	HCG7A1E334YPH

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Rated Voltage Code (Surge Voltage) (V <sub>DC</sub> )	Capacitance ( $\mu$ F)	Case size $\phi$ DXL(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 40°C, 120Hz (Arms)	ESR(typ.) 20°C, 100Hz (m $\Omega$ )	Z <sub>max</sub> 20°C, 10kHz (m $\Omega$ )	ESL(typ.) (nH)	Product name
35 1V (44)	10000	36×53	0.40	9.6	29	31	18	HCG7A1V103I PPS
	15000	36×65	0.45	10.7	19	20	18	HCG7A1V153I PPS
	22000	36×83	0.45	13.4	14	15	18	HCG7A1V223I PPS
	33000	36×121	0.50	19.4	12	13	18	HCG7A1V333I PPS
	47000	51×83	0.50	22.5	8	9	21	HCG7A1V473YPH
	68000	51×100	0.70	27.6	7	8	21	HCG7A1V683YPH
	100000	64×100	1.00	29.5	6	7	22	HCG7A1V104YPH
	150000	64×144	1.00	41.4	5	7	22	HCG7A1V154YPH
220000	77×144	1.20	46.8	5	7	24	HCG7A1V224YPH	
50 1H (63)	6800	36×53	0.35	8.8	44	39	18	HCG7A1H682I PPS
	10000	36×65	0.35	11.6	30	28	18	HCG7A1H103I PPS
	15000	36×83	0.35	12.7	20	20	18	HCG7A1H153I PPS
	22000	36×121	0.40	18.2	14	15	18	HCG7A1H223I PPS
	33000	51×83	0.40	20.3	13	14	21	HCG7A1H333YPH
	47000	51×100	0.50	25.9	11	12	21	HCG7A1H473YPH
	68000	64×100	0.70	32.2	8	9	22	HCG7A1H683YPH
	100000	64×144	0.70	36.8	6	7	22	HCG7A1H104YPH
150000	77×144	0.90	37.8	5	7	24	HCG7A1H154YPH	
63 1J (79)	6800	36×53	0.20	10.2	38	35	18	HCG7A1J682I PPS
	10000	36×83	0.30	12.8	28	28	18	HCG7A1J103I PPS
	15000	36×100	0.35	15.1	21	22	18	HCG7A1J153I PPS
	22000	51×83	0.40	20.9	13	14	21	HCG7A1J223YPH
	33000	51×100	0.40	23.6	10	11	21	HCG7A1J333YPH
	47000	64×100	0.40	32.1	8	9	22	HCG7A1J473YPH
	68000	64×144	0.50	37.2	7	8	22	HCG7A1J683YPH
	100000	77×144	0.70	41.1	7	8	24	HCG7A1J104YPH
80 1K (100)	4700	36×53	0.15	10.4	32	30	18	HCG7A1K472I PPS
	6800	36×83	0.22	12.1	22	23	18	HCG7A1K682I PPS
	10000	36×100	0.22	16.0	15	16	18	HCG7A1K103I PPS
	15000	51×83	0.30	20.7	10	11	21	HCG7A1K153YPH
	22000	51×100	0.30	23.5	9	10	21	HCG7A1K223YPH
	33000	64×100	0.35	28.5	7	7	22	HCG7A1K333YPH
	47000	64×144	0.35	39.0	6	7	22	HCG7A1K473YPH
	68000	77×144	0.40	45.3	4	7	24	HCG7A1K683YPH
100 2A (125)	3300	36×53	0.15	8.7	34	32	18	HCG7A2A332I PPS
	4700	36×83	0.15	12.4	24	24	18	HCG7A2A472I PPS
	6800	36×100	0.20	13.2	19	20	18	HCG7A2A682I PPS
	10000	51×83	0.20	16.9	13	14	21	HCG7A2A103YPH
	15000	51×121	0.20	24.1	11	12	21	HCG7A2A153YPH
	22000	64×100	0.20	25.9	8	9	22	HCG7A2A223YPH
	33000	64×144	0.25	33.0	6	7	22	HCG7A2A333YPH
	47000	77×144	0.30	37.6	5	7	24	HCG7A2A473YPH
160 2C (200)	1500	36×83	0.25	6.9	87	80	18	HCG7A2C152I PPS
	2200	36×100	0.25	9.2	59	53	18	HCG7A2C222I PPS
	3300	51×83	0.25	12.0	40	35	21	HCG7A2C332YPH
	4700	51×100	0.25	15.3	30	25	21	HCG7A2C472YPH
	6800	64×100	0.25	20.4	22	23	22	HCG7A2C682YPH
	10000	64×121	0.25	26.5	15	16	22	HCG7A2C103YPH
	15000	77×121	0.25	34.4	14	14	24	HCG7A2C153YPH
200 2D (250)	1000	36×65	0.25	5.2	120	100	18	HCG7A2D102I PPS
	1500	36×83	0.25	6.9	100	85	18	HCG7A2D152I PPS
	2200	36×121	0.25	9.9	68	60	18	HCG7A2D222I PPS
	3300	51×83	0.25	12.0	45	35	21	HCG7A2D332YPH
	4700	51×121	0.25	16.6	31	27	21	HCG7A2D472YPH
	6800	64×121	0.25	21.9	21	20	22	HCG7A2D682YPH
	10000	77×121	0.25	28.1	14	14	24	HCG7A2D103YPH
250 2E (300)	1000	36×83	0.25	5.6	84	70	18	HCG7A2E102I PPS
	1500	36×121	0.25	8.1	56	50	18	HCG7A2E152I PPS
	2200	51×83	0.25	9.9	50	45	21	HCG7A2E222YPH
	3300	51×121	0.25	13.9	36	35	21	HCG7A2E332YPH
	4700	64×100	0.25	16.9	25	23	22	HCG7A2E472YPH
	6800	64×144	0.25	23.5	18	18	22	HCG7A2E682YPH
	10000	77×144	0.25	30.0	13	13	24	HCG7A2E103YPH

ALUMINUM ELECTROLYTIC CAPACITORS

## Life time graph

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I_r$  versus rated ripple current at  $40^\circ\text{C}$ , 120Hz

