

# SNAP MOUNT TYPE ALUMINUM ELECTROLYTIC CAPACITORS

**UPGRADE!**

## HU Series

Useful of 4,000 hours at 105°C (Warranty of 2,000 hours at 105°C)

- Conform RoHS

### Features

- The size is reduced by 10 to 16% of conventional HU5 through development of etched foil technology.



### Product Specifications

Items	Specifications
Temperature range	-40°C ~ +105°C (200, 250V.DC) -25°C ~ +105°C (400 ~500V.DC)
Rated voltage	200 ~ 500V.DC
Capacitance tolerance	±20% (20°C,120Hz)
Leakage current	0.02CV (µA) or 3mA, whichever is smaller or less (20°C, after 5 minutes) [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. (105°C,120Hz)
Endurance	After 105°C, 2000h, rated voltage with specified ripple current application Capacitance change : Within ±20% of initial value Dissipation factor : Not more than 200% of initial value specified Leakage current : Not more than initial value specified
Others	JIS C 5101-4.

### Ripple current correction coefficient

Temperature (°C)	60	70	85	105	
Correction coefficient	1.9	1.7	1.4	1.0	
Frequency (Hz)	50/60	120	300	1k	≥10K
Correction coefficient	0.7	1.0	1.1	1.3	1.4

A continuous load should be avoided over 10 Arms at the terminal in accordance with the permissible current.  
Please consult us when the ripple voltage exceeds 70Vp-p .

Product code : (Example) HU Series 400V 330µF ±20%

**HU 2G 331 M C A S2 WPEC**

Lead-Free and PVC-Free(standard)  
Without plate(standard)  
Case length code  
Case dia code  
Terminal code  
Capacitance tolerance code  
Capacitance code  
Rated voltage code  
Type of series

Refer to page 66-67 for other terminal shape available on request.

Standard Products Table

Rated Voltage (V. DC)	Capacitance (µF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	ESR(typ.) 20°C,100Hz (mΩ)	Product name
200	330	22×25	0.15	1.07	330	HU2D331MCXS2WPEC
	390	22×30	0.15	1.24	280	HU2D391MCXS3WPEC
	470	25×25	0.15	1.31	240	HU2D471MCYS2WPEC
	560	22×35	0.15	1.58	200	HU2D561MCXS4WPEC
		25×30	0.15	1.52	200	HU2D561MCYS3WPEC
	680	22×40	0.15	1.83	160	HU2D681MCXS5WPEC
		25×35	0.15	1.77	160	HU2D681MCYS4WPEC
		30×25	0.15	1.60	160	HU2D681MCZS2WPEC
	820	22×50	0.15	2.20	140	HU2D821MCXS7WPEC
		25×40	0.15	2.05	140	HU2D821MCYS5WPEC
		30×30	0.15	1.86	140	HU2D821MCZS3WPEC
		35×25	0.15	1.52	140	HU2D821MCAS2WPEC
	1000	25×45	0.15	2.37	110	HU2D102MCYS6WPEC
		30×35	0.15	2.17	110	HU2D102MCZS4WPEC
	1200	25×50	0.15	2.70	100	HU2D122MCYS7WPEC
		30×40	0.15	2.49	100	HU2D122MCZS5WPEC
		35×30	0.15	1.94	100	HU2D122MCAS3WPEC
	1500	30×45	0.15	2.91	80	HU2D152MCZS6WPEC
		35×35	0.15	2.29	80	HU2D152MCAS4WPEC
	1800	30×50	0.15	3.32	70	HU2D182MCZS7WPEC
35×40		0.15	2.62	70	HU2D182MCAS5WPEC	
2200	35×45	0.15	3.02	50	HU2D222MCAS6WPEC	

Rated Voltage (V. DC)	Capacitance (µF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	ESR(typ.) 20°C,100Hz (mΩ)	Product name
250	220	22×25	0.15	0.95	440	HU2E221MCXS2WPEC
	330	22×30	0.15	1.24	290	HU2E331MCXS3WPEC
		25×25	0.15	1.19	290	HU2E331MCYS2WPEC
	390	22×35	0.15	1.42	250	HU2E391MCXS4WPEC
		25×30	0.15	1.37	250	HU2E391MCYS3WPEC
	470	22×40	0.15	1.65	210	HU2E471MCXS5WPEC
		30×25	0.15	1.42	210	HU2E471MCZS2WPEC
	560	22×45	0.15	1.88	180	HU2E561MCXS6WPEC
		25×35	0.15	1.74	180	HU2E561MCYS4WPEC
	680	25×45	0.15	2.11	150	HU2E681MCYS6WPEC
		30×30	0.15	1.82	150	HU2E681MCZS3WPEC
		35×25	0.15	1.52	150	HU2E681MCAS2WPEC
	820	25×50	0.15	2.41	120	HU2E821MCYS7WPEC
		30×35	0.15	2.10	120	HU2E821MCZS4WPEC
	1000	35×30	0.15	1.76	120	HU2E821MCAS3WPEC
		30×40	0.15	2.43	100	HU2E102MCZS5WPEC
	1200	35×35	0.15	2.04	100	HU2E102MCAS4WPEC
		30×50	0.15	2.89	80	HU2E122MCZS7WPEC
	1500	35×40	0.15	2.34	80	HU2E122MCAS5WPEC
		35×45	0.15	2.73	70	HU2E152MCAS6WPEC
1800	35×50	0.15	3.11	60	HU2E182MCAS7WPEC	

# SNAP MOUNT TYPE ALUMINUM ELECTROLYTIC CAPACITORS

ALUMINUM ELECTROLYTIC CAPACITORS

Rated Voltage (V. DC)	Capacitance (μF)	Case size øDXL (mm)	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	ESR(typ.) 20°C,100Hz (mΩ)	Product name
400	120	22×25	0.20	0.77	800	HU2G121MCXS2WPEC
	150	22×30	0.20	0.92	640	HU2G151MCXS3WPEC
	180	22×35	0.20	1.05	540	HU2G181MCXS4WPEC
		25×25	0.20	0.99	540	HU2G181MCYS2WPEC
	220	22×40	0.20	1.22	440	HU2G221MCXS5WPEC
		25×30	0.20	1.16	440	HU2G221MCYS3WPEC
	270	22×45	0.20	1.40	360	HU2G271MCXS6WPEC
		25×35	0.20	1.35	360	HU2G271MCYS4WPEC
		30×25	0.20	1.28	360	HU2G271MCZS2WPEC
	330	22×50	0.20	1.59	290	HU2G331MCXS7WPEC
		25×40	0.20	1.55	290	HU2G331MCYS5WPEC
		30×30	0.20	1.49	290	HU2G331MCZS3WPEC
	390	35×25	0.20	1.46	290	HU2G331MCAS2WPEC
		25×45	0.20	1.74	250	HU2G391MCYS6WPEC
		30×35	0.20	1.70	250	HU2G391MCZS4WPEC
	470	30×40	0.20	1.94	210	HU2G471MCZS5WPEC
		35×30	0.20	1.84	210	HU2G471MCAS3WPEC
	560	30×45	0.20	2.19	180	HU2G561MCZS6WPEC
35×35		0.20	2.09	180	HU2G561MCAS4WPEC	
680	30×50	0.20	2.48	150	HU2G681MCZS7WPEC	
	35×40	0.20	2.40	150	HU2G681MCAS5WPEC	
820	35×45	0.20	2.72	120	HU2G821MCAS6WPEC	
420	100	22×25	0.20	0.71	1020	HU420V101MCXS2WPEC
	150	22×30	0.20	0.92	680	HU420V151MCXS3WPEC
		25×25	0.20	0.90	680	HU420V151MCYS2WPEC
	180	22×35	0.20	1.05	570	HU420V181MCXS4WPEC
		25×30	0.20	1.05	570	HU420V181MCYS3WPEC
	220	22×40	0.20	1.22	470	HU420V221MCXS5WPEC
		25×35	0.20	1.21	470	HU420V221MCYS4WPEC
	270	30×25	0.20	1.15	470	HU420V221MCZS2WPEC
		22×50	0.20	1.44	380	HU420V271MCXS7WPEC
	270	25×40	0.20	1.40	380	HU420V271MCYS5WPEC
		30×30	0.20	1.35	380	HU420V271MCZS3WPEC
		35×25	0.20	1.38	380	HU420V271MCAS2WPEC
	330	25×45	0.20	1.61	310	HU420V331MCYS6WPEC
		30×35	0.20	1.56	310	HU420V331MCZS4WPEC
	390	25×50	0.20	1.80	270	HU420V391MCYS7WPEC
		30×40	0.20	1.76	270	HU420V391MCZS5WPEC
		35×30	0.20	1.67	270	HU420V391MCAS3WPEC
	470	30×45	0.20	2.00	220	HU420V471MCZS6WPEC
		35×35	0.20	1.92	220	HU420V471MCAS4WPEC
	560	30×50	0.20	2.25	190	HU420V561MCZS7WPEC
		35×40	0.20	2.18	190	HU420V561MCAS5WPEC
	680	35×45	0.20	2.48	150	HU420V681MCAS6WPEC
	820	35×50	0.20	2.80	130	HU420V821MCAS7WPEC

Rated Voltage (V. DC)	Capacitance (μF)	Case size øDXL (mm)	tanδ 20°C,120Hz	Ripple current (Arms) 105°C,120Hz	ESR(typ.) 20°C,100Hz (mΩ)	Product name
450	100	22×25	0.20	0.71	1020	HU2W101MCXS2WPEC
	150	22×30	0.20	0.92	680	HU2W151MCXS3WPEC
		25×25	0.20	0.90	680	HU2W151MCYS2WPEC
	180	22×35	0.20	1.05	570	HU2W181MCXS4WPEC
		25×30	0.20	1.05	570	HU2W181MCYS3WPEC
	220	22×40	0.20	1.22	470	HU2W221MCXS5WPEC
		25×35	0.20	1.21	470	HU2W221MCYS4WPEC
		30×25	0.20	1.15	470	HU2W221MCZS2WPEC
	270	22×50	0.20	1.44	380	HU2W271MCXS7WPEC
		25×40	0.20	1.40	380	HU2W271MCYS5WPEC
		30×30	0.20	1.35	380	HU2W271MCZS3WPEC
	330	35×25	0.20	1.32	380	HU2W271MCAS2WPEC
		25×45	0.20	1.61	310	HU2W331MCYS6WPEC
		30×35	0.20	1.56	310	HU2W331MCZS4WPEC
	390	25×50	0.20	1.80	270	HU2W391MCYS7WPEC
		30×40	0.20	1.76	270	HU2W391MCZS5WPEC
	470	35×30	0.20	1.67	270	HU2W391MCAS3WPEC
		30×45	0.20	2.00	220	HU2W471MCZS6WPEC
	560	35×35	0.20	1.92	220	HU2W471MCAS4WPEC
		30×50	0.20	2.25	190	HU2W561MCZS7WPEC
	680	35×40	0.20	2.18	190	HU2W561MCAS5WPEC
		35×45	0.20	2.48	150	HU2W681MCAS6WPEC
	820	35×50	0.20	2.80	130	HU2W821MCAS7WPEC
	500	56	22×25	0.20	0.48	1710
68		22×30	0.20	0.56	1410	HU2H680MCXS3WPEC
		25×25	0.20	0.55	1410	HU2H680MCYS2WPEC
82		22×35	0.20	0.64	1170	HU2H820MCXS4WPEC
		25×30	0.20	0.64	1170	HU2H820MCYS3WPEC
100		22×40	0.20	0.74	960	HU2H101MCXS5WPEC
		30×25	0.20	0.66	960	HU2H101MCZS2WPEC
120		22×45	0.20	0.84	800	HU2H121MCXS6WPEC
		25×35	0.20	0.81	800	HU2H121MCYS4WPEC
150		25×45	0.20	0.97	640	HU2H151MCAS6WPEC
		30×30	0.20	0.85	640	HU2H151MCZS3WPEC
		35×25	0.20	0.81	640	HU2H151MCAS2WPEC
180		25×50	0.20	1.10	540	HU2H181MCYS7WPEC
		30×35	0.20	0.98	540	HU2H181MCZS4WPEC
220		35×30	0.20	0.93	540	HU2H181MCAS3WPEC
		30×40	0.20	1.12	440	HU2H221MCZS5WPEC
270		35×35	0.20	1.07	440	HU2H221MCAS4WPEC
		30×50	0.20	1.33	360	HU2H271MCZS7WPEC
330	35×40	0.20	1.23	360	HU2H271MCAS5WPEC	
390	35×45	0.20	1.41	290	HU2H331MCAS6WPEC	
		35×50	0.20	1.58	250	HU2H391MCAS7WPEC

## Life time graph

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I_r$  versus rated ripple current at 105°C, 120Hz

