

SNAP MOUNT TYPE ALUMINUM ELECTROLYTIC CAPACITORS

HL Series

Useful of 8,000 hours at 105°C (Warranty of 5,000 hours at 105°C)

- Conform RoHS

Features

- The HL type is the miniaturization products of 5000 hours.



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, 5000h, 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) HL Series 400V 120µF ±20%

HL 2G 121 M C X S2 WP EC



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	1.09	330	HL2D331MCXS2WPEC
		22×30	0.15	1.37	240	HL2D471MCXS3WPEC
	470	25×25	0.15	1.36	240	HL2D471MCYS2WPEC
		22×35	0.15	1.57	200	HL2D561MCXS4WPEC
	560	25×30	0.15	1.57	200	HL2D561MCYS3WPEC
		22×40	0.15	1.81	160	HL2D681MCXS5WPEC
	680	30×25	0.15	1.75	160	HL2D681MCZS2WPEC
		22×45	0.15	2.06	140	HL2D821MCXS6WPEC
	820	25×35	0.15	1.99	140	HL2D821MCYS4WPEC
		25×45	0.15	2.37	110	HL2D102MCYS6WPEC
	1000	30×30	0.15	2.24	110	HL2D102MCZS3WPEC
		35×25	0.15	1.94	110	HL2D102MCAS2WPEC
		25×50	0.15	2.67	100	HL2D122MCYS7WPEC
	1200	30×35	0.15	2.56	100	HL2D122MCZS4WPEC
		35×30	0.15	2.23	100	HL2D122MCAS3WPEC
	1500	30×45	0.15	3.08	80	HL2D152MCZS6WPEC
		35×35	0.15	2.61	80	HL2D152MCAS4WPEC
	1800	30×50	0.15	3.49	70	HL2D182MCZS7WPEC
		35×40	0.15	2.97	70	HL2D182MCAS5WPEC
	2200	35×45	0.15	3.39	50	HL2D222MCAS6WPEC
2700	35×50	0.15	3.86	50	HL2D272MCAS7WPEC	

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	270	22×25	0.15	0.98	360	HL2E271MCXS2WPEC
		22×30	0.15	1.15	290	HL2E331MCXS3WPEC
	330	25×25	0.15	1.14	290	HL2E331MCYS2WPEC
		22×35	0.15	1.31	250	HL2E391MCXS4WPEC
	390	22×40	0.15	1.50	210	HL2E471MCXS5WPEC
		25×30	0.15	1.43	210	HL2E471MCYS3WPEC
	470	30×25	0.15	1.45	210	HL2E471MCZS2WPEC
		22×45	0.15	1.70	180	HL2E561MCXS6WPEC
	560	25×35	0.15	1.64	180	HL2E561MCYS4WPEC
		22×50	0.15	1.94	150	HL2E681MCXS7WPEC
	680	25×40	0.15	1.88	150	HL2E681MCYS5WPEC
		30×30	0.15	1.85	150	HL2E681MCZS3WPEC
		35×25	0.15	1.60	150	HL2E681MCAS2WPEC
	820	25×45	0.15	2.14	120	HL2E821MCYS6WPEC
		30×35	0.15	2.12	120	HL2E821MCZS4WPEC
	1000	35×30	0.15	1.84	120	HL2E821MCAS3WPEC
		30×40	0.15	2.44	100	HL2E102MCZS5WPEC
	1200	30×45	0.15	2.76	80	HL2E122MCZS6WPEC
		35×35	0.15	2.33	80	HL2E122MCAS4WPEC
	1500	35×45	0.15	2.80	70	HL2E152MCAS6WPEC
1800	35×50	0.15	3.16	60	HL2E182MCAS7WPEC	

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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	HL2G121MCXS2WPEC
	150	22×30	0.20	0.92	640	HL2G151MCXS3WPEC
		25×25	0.20	0.90	640	HL2G151MCYS2WPEC
	180	22×35	0.20	1.05	540	HL2G181MCXS4WPEC
		25×30	0.20	1.05	540	HL2G181MCYS3WPEC
	220	22×40	0.20	1.22	440	HL2G221MCXS5WPEC
		25×35	0.20	1.21	440	HL2G221MCYS4WPEC
		30×25	0.20	1.17	440	HL2G221MCZS2WPEC
	270	22×45	0.20	1.40	360	HL2G271MCXS6WPEC
		25×40	0.20	1.40	360	HL2G271MCYS5WPEC
	330	25×45	0.20	1.61	290	HL2G331MCYS6WPEC
		30×30	0.20	1.49	290	HL2G331MCZS3WPEC
		35×25	0.20	1.52	290	HL2G331MCAS2WPEC
	390	25×50	0.20	1.80	250	HL2G391MCYS7WPEC
		30×35	0.20	1.70	250	HL2G391MCZS4WPEC
	470	35×30	0.20	1.68	250	HL2G391MCAS3WPEC
		30×40	0.20	1.94	210	HL2G471MCZS5WPEC
	560	35×35	0.20	1.92	210	HL2G471MCAS4WPEC
30×45		0.20	2.19	180	HL2G561MCZS6WPEC	
680	35×40	0.20	2.18	180	HL2G561MCAS5WPEC	
	35×45	0.20	2.48	150	HL2G681MCAS6WPEC	
820	35×50	0.20	2.80	120	HL2G821MCAS7WPEC	
420	100	22×25	0.20	0.71	1020	HL420V101MCXS2WPEC
	120	22×30	0.20	0.82	850	HL420V121MCXS3WPEC
		25×25	0.20	0.81	850	HL420V121MCYS2WPEC
	150	22×35	0.20	0.96	680	HL420V151MCXS4WPEC
		22×40	0.20	1.10	570	HL420V181MCXS5WPEC
	180	25×30	0.20	1.05	570	HL420V181MCYS3WPEC
		30×25	0.20	1.06	570	HL420V181MCZS2WPEC
	220	22×45	0.20	1.26	470	HL420V221MCXS6WPEC
		25×35	0.20	1.21	470	HL420V221MCYS4WPEC
	270	22×50	0.20	1.44	380	HL420V271MCXS7WPEC
		25×40	0.20	1.40	380	HL420V271MCYS5WPEC
		30×30	0.20	1.35	380	HL420V271MCZS3WPEC
	330	35×25	0.20	1.38	380	HL420V271MCAS2WPEC
		25×50	0.20	1.66	310	HL420V331MCYS7WPEC
	390	30×35	0.20	1.56	310	HL420V331MCZS4WPEC
		30×40	0.20	1.76	270	HL420V391MCZS5WPEC
	470	35×30	0.20	1.67	270	HL420V391MCAS3WPEC
		30×45	0.20	2.00	220	HL420V471MCZS6WPEC
	560	35×35	0.20	1.92	220	HL420V471MCAS4WPEC
		35×40	0.20	2.18	190	HL420V561MCAS5WPEC
	680	35×50	0.20	2.55	150	HL420V681MCAS7WPEC

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	82	22×25	0.20	0.64	1250	HL2W820MCXS2WPEC
	120	22×30	0.20	0.82	850	HL2W121MCXS3WPEC
		25×25	0.20	0.81	850	HL2W121MCYS2WPEC
	150	22×35	0.20	0.96	680	HL2W151MCXS4WPEC
		25×30	0.20	0.96	680	HL2W151MCYS3WPEC
	180	22×40	0.20	1.10	570	HL2W181MCXS5WPEC
		25×35	0.20	1.10	570	HL2W181MCYS4WPEC
		30×25	0.20	1.06	570	HL2W181MCZS2WPEC
	220	22×50	0.20	1.30	470	HL2W221MCXS7WPEC
		25×40	0.20	1.27	470	HL2W221MCYS5WPEC
		30×30	0.20	1.22	470	HL2W221MCZS3WPEC
	270	35×25	0.20	1.24	470	HL2W221MCAS2WPEC
		25×45	0.20	1.45	380	HL2W271MCYS6WPEC
	330	30×35	0.20	1.41	380	HL2W271MCZS4WPEC
		30×40	0.20	1.62	310	HL2W331MCZS5WPEC
	390	35×30	0.20	1.54	310	HL2W331MCAS3WPEC
		30×45	0.20	1.82	270	HL2W391MCZS6WPEC
	470	35×35	0.20	1.75	270	HL2W391MCAS4WPEC
30×50		0.20	2.07	220	HL2W471MCZS7WPEC	
560	35×40	0.20	1.99	220	HL2W471MCAS5WPEC	
	35×45	0.20	2.25	190	HL2W561MCAS6WPEC	
680	35×50	0.20	2.55	150	HL2W681MCAS7WPEC	
500	100	25×35	0.20	0.67	960	HL2H101MCYS4WPEC
		30×25	0.20	0.64	960	HL2H101MCZS2WPEC
	120	25×40	0.20	0.77	800	HL2H121MCYS5WPEC
		30×30	0.20	0.74	800	HL2H121MCZS3WPEC
	150	35×25	0.20	0.72	800	HL2H121MCAS2WPEC
		25×50	0.20	0.92	640	HL2H151MCYS7WPEC
		30×35	0.20	0.86	640	HL2H151MCZS4WPEC
	180	35×30	0.20	0.85	640	HL2H151MCAS3WPEC
		30×40	0.20	0.98	540	HL2H181MCZS5WPEC
	220	35×35	0.20	0.97	540	HL2H181MCAS4WPEC
		30×45	0.20	1.13	440	HL2H221MCZS6WPEC
	270	35×40	0.20	1.12	440	HL2H221MCAS5WPEC
35×45		0.20	1.28	360	HL2H271MCAS6WPEC	
330	35×50	0.20	1.46	290	HL2H331MCAS7WPEC	

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.

