

XL1 Series

Useful of 15,000 hours at 105°C

- Conform RoHS

Features

- Useful of 15,000 hours at 105°C through improvement of electrolyte liquid and etched foil technology.

YL
P.146

→
Long-life

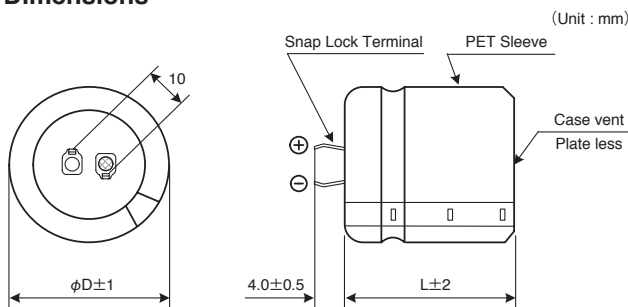
XL1



Product Specifications

Items	Specifications
Temperature range	-40°C ~ +105°C
Rated voltage	200 ~ 450V.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 product table. (105°C, 120Hz)
Endurance	After the rated voltage with specified ripple current is applied at 105°C for 10,000 hours : Capacitance change : Within ±15% of the initial value measured Dissipation factor : 200% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Shelf life	The following specification shall be meet when the capacitor are restored to 20°C after storage of 500 hours at 105°C with no voltage applied. Before the measurement, the capacitor shall be preconditioned by applying the voltage treatment according to Item 4.1 of JIS C 5101-4. Capacitance change : Within ±15% of the initial value measured Dissipation factor : 175% or less than the initial value specified Leakage current : Less than or equal to the initial value specified
Others	JIS C 5101-4

Dimensions



Ripple current correction coefficient

Temperature (°C)	60	70	85	105	
Correction coefficient	2.2	2.0	1.8	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) XL1 series 450V 100µF±20%

XL1	2W	101	M	C	X	S5	WP	EC
Type of series	Rated voltage code	Capacitance code	Capacitance tolerance code	Terminal code	Case dia code	Case height code	Plate code	Environmental code

Refer to page 124-125 for other terminal shape available on request.

Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 105°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Product name
200	270	22×25	0.15	0.86	325	XL12D271MCXS2WPEC
		22×30	0.15	1.03	265	XL12D331MCXS3WPEC
	330	25×25	0.15	0.97	265	XL12D331MCYS2WPEC
		22×35	0.15	1.19	225	XL12D391MCXS4WPEC
	470	22×40	0.15	1.39	187	XL12D471MCXS5WPEC
		25×30	0.15	1.24	187	XL12D471MCYS3WPEC
	560	22×45	0.15	1.60	156	XL12D561MCXS6WPEC
		25×35	0.15	1.45	156	XL12D561MCYS4WPEC
		30×25	0.15	1.35	156	XL12D561MCZS2WPEC
	680	22×50	0.15	1.84	129	XL12D681MCXS7WPEC
		25×40	0.15	1.69	129	XL12D681MCYS5WPEC
		30×30	0.15	1.60	129	XL12D681MCZS3WPEC
		35×25	0.15	1.56	129	XL12D681MCAS2WPEC
	820	25×45	0.15	1.95	107	XL12D821MCYS6WPEC
		30×35	0.15	1.87	107	XL12D821MCZS4WPEC
		35×30	0.15	1.83	107	XL12D821MCAS3WPEC
	1,000	30×40	0.15	2.18	88	XL12D102MCZS5WPEC
		35×35	0.15	2.15	88	XL12D102MCAS4WPEC
1,200	30×45	0.15	2.51	73	XL12D122MCZS6WPEC	
	35×40	0.15	2.48	73	XL12D122MCAS5WPEC	
1,500	35×45	0.15	2.92	59	XL12D152MCAS6WPEC	
1,800	35×50	0.15	3.34	50	XL12D182MCAS7WPEC	
250	180	22×25	0.15	0.70	487	XL12E181MCXS2WPEC
		22×30	0.15	0.84	398	XL12E221MCXS3WPEC
	220	25×25	0.15	0.79	398	XL12E221MCYS2WPEC
		22×35	0.15	0.99	325	XL12E271MCXS4WPEC
	330	22×40	0.15	1.16	265	XL12E331MCXS5WPEC
		25×30	0.15	1.04	265	XL12E331MCYS3WPEC
	390	22×45	0.15	1.33	225	XL12E391MCXS6WPEC
		25×35	0.15	1.21	225	XL12E391MCYS4WPEC
		30×25	0.15	1.13	225	XL12E391MCZS2WPEC
	470	22×50	0.15	1.53	187	XL12E471MCXS7WPEC
		25×40	0.15	1.40	187	XL12E471MCYS5WPEC
		30×30	0.15	1.33	187	XL12E471MCZS3WPEC
		35×25	0.15	1.29	187	XL12E471MCAS2WPEC
	560	25×45	0.15	1.61	156	XL12E561MCYS6WPEC
		30×35	0.15	1.55	156	XL12E561MCZS4WPEC
		35×30	0.15	1.51	156	XL12E561MCAS3WPEC
	680	30×40	0.15	1.80	129	XL12E681MCZS5WPEC
		35×35	0.15	1.77	129	XL12E681MCAS4WPEC
	820	30×45	0.15	2.08	107	XL12E821MCZS6WPEC
		35×40	0.15	2.06	107	XL12E821MCAS5WPEC
	1,000	30×50	0.15	2.40	88	XL12E102MCZS7WPEC
		35×45	0.15	2.38	88	XL12E102MCAS6WPEC
	1,200	35×50	0.15	2.73	74	XL12E122MCAS7WPEC

Rated Voltage (V. DC)	Capacitance (μF)	Case size φD×L (mm)	tanδ 20°C, 120Hz	Ripple current (Arms) 105°C, 120Hz	ESR(typ.) (mΩ) 20°C, 100Hz	Product name
400	68	22×25	0.25	0.43	1,300	XL12G680MCXS2WPEC
		22×30	0.25	0.57	924	XL12G101MCXS3WPEC
	100	25×25	0.25	0.53	924	XL12G101MCYS2WPEC
		22×35	0.25	0.66	770	XL12G121MCXS4WPEC
	120	25×30	0.25	0.63	770	XL12G121MCYS3WPEC
		22×40	0.25	0.78	615	XL12G151MCXS5WPEC
	150	30×25	0.25	0.70	615	XL12G151MCZS2WPEC
		22×45	0.25	0.90	520	XL12G181MCXS6WPEC
	180	25×35	0.25	0.82	520	XL12G181MCYS4WPEC
		35×25	0.25	0.80	520	XL12G181MCAS2WPEC
	220	25×45	0.25	1.01	434	XL12G221MCYS6WPEC
		30×30	0.25	0.91	434	XL12G221MCZS3WPEC
	270	25×50	0.25	1.17	354	XL12G271MCXS7WPEC
		30×35	0.25	1.07	354	XL12G271MCZS4WPEC
		35×30	0.25	1.05	354	XL12G271MCAS3WPEC
	330	30×40	0.25	1.25	290	XL12G331MCZS5WPEC
		35×35	0.25	1.24	290	XL12G331MCAS4WPEC
	390	30×50	0.25	1.50	245	XL12G391MCZS7WPEC
35×40		0.25	1.42	245	XL12G391MCAS5WPEC	
470	35×45	0.25	1.63	203	XL12G471MCAS6WPEC	
	35×50	0.25	1.86	171	XL12G561MCAS7WPEC	
450	56	22×25	0.25	0.39	1,678	XL12W560MCXS2WPEC
		22×30	0.25	0.47	1,382	XL12W680MCXS3WPEC
	68	25×25	0.25	0.44	1,382	XL12W680MCYS2WPEC
		22×35	0.25	0.55	1,146	XL12W820MCXS4WPEC
	100	22×40	0.25	0.64	939	XL12W101MCXS5WPEC
		25×30	0.25	0.57	939	XL12W101MCYS3WPEC
		30×25	0.25	0.57	939	XL12W101MCZS2WPEC
	120	22×45	0.25	0.74	783	XL12W121MCXS6WPEC
		25×35	0.25	0.67	783	XL12W121MCYS4WPEC
		35×25	0.25	0.65	783	XL12W121MCAS2WPEC
	150	25×45	0.25	0.84	626	XL12W151MCYS6WPEC
		30×30	0.25	0.75	626	XL12W151MCZS3WPEC
	180	25×50	0.25	0.96	522	XL12W181MCYS7WPEC
		30×35	0.25	0.88	522	XL12W181MCZS4WPEC
	220	35×30	0.25	0.86	522	XL12W181MCAS3WPEC
		30×40	0.25	1.02	434	XL12W221MCZS5WPEC
	270	35×35	0.25	1.01	434	XL12W221MCAS4WPEC
		30×50	0.25	1.25	354	XL12W271MCZS7WPEC
35×40		0.25	1.18	354	XL12W271MCAS5WPEC	
330	35×45	0.25	1.37	290	XL12W331MCAS6WPEC	
	35×50	0.25	1.56	246	XL12W391MCAS7WPEC	

ALUMINUM ELECTROLYTIC CAPACITORS

Life time graph

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

