

# LXM Series

- Endurance with ripple current : 7,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

LXM

Longer life

LXQ



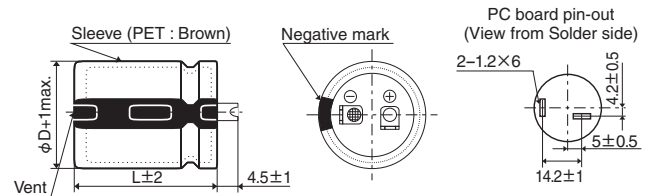
## SPECIFICATIONS

Items	Characteristics		
Category	-25 to +105°C		
Temperature Range	-25 to +105°C		
Rated Voltage Range	160 to 450V <sub>dc</sub>		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current	I ≤ 3√CV Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 5 minutes)		
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	160 to 400V	420 & 450V
	tan δ (Max.)	0.15	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	160 to 400V	420 & 450V
	Z (-25°C)/Z (+20°C)	4	8
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 7,000 hours at 105°C.		
	Capacitance change	≤ ±20% of the initial value	
	D.F. (tan δ)	≤ 250% of the initial specified value	
	Leakage current	≤ The initial specified value	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.		
	Capacitance change	≤ ±15% of the initial value	
	D.F. (tan δ)	≤ 150% of the initial specified value	
	Leakage current	≤ The initial specified value	

## DIMENSIONS [mm]

Terminal Code : VS (φ22 to φ35) : Standard

Terminal Code : LI (φ35)



\* φD=35mm : 3.5±0.5mm

The standard design has no plastic disc.

## PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

◆ **STANDARD RATINGS**

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.
160	330	22 × 25	0.15	1.11	ELXM161VSN331MP25S	220	220	22 × 25	0.15	0.90	ELXM221VSN221MP25S
	390	22 × 30	0.15	1.26	ELXM161VSN391MP30S		270	22 × 30	0.15	1.05	ELXM221VSN271MP30S
	470	22 × 30	0.15	1.39	ELXM161VSN471MP30S		330	22 × 35	0.15	1.19	ELXM221VSN331MP35S
	470	25.4 × 25	0.15	1.38	ELXM161VSN471MQ25S		330	25.4 × 25	0.15	1.16	ELXM221VSN331MQ25S
	560	22 × 35	0.15	1.55	ELXM161VSN561MP35S		390	22 × 40	0.15	1.33	ELXM221VSN391MP40S
	560	25.4 × 30	0.15	1.55	ELXM161VSN561MQ30S		390	25.4 × 30	0.15	1.29	ELXM221VSN391MQ30S
	680	22 × 40	0.15	1.75	ELXM161VSN681MP40S		470	22 × 45	0.15	1.49	ELXM221VSN471MP45S
	680	25.4 × 35	0.15	1.78	ELXM161VSN681MQ35S		470	25.4 × 35	0.15	1.48	ELXM221VSN471MQ35S
	680	30 × 25	0.15	1.74	ELXM161VSN681MR25S		470	30 × 25	0.15	1.45	ELXM221VSN471MR25S
	820	22 × 50	0.15	1.97	ELXM161VSN821MP50S		560	22 × 50	0.15	1.63	ELXM221VSN561MP50S
	820	25.4 × 40	0.15	2.01	ELXM161VSN821MQ40S		560	25.4 × 40	0.15	1.71	ELXM221VSN561MQ40S
	820	30 × 30	0.15	1.96	ELXM161VSN821MR30S		560	30 × 30	0.15	1.62	ELXM221VSN561MR30S
	1,000	25.4 × 45	0.15	2.27	ELXM161VSN102MQ45S		680	25.4 × 45	0.15	1.87	ELXM221VSN681MQ45S
	1,000	30 × 35	0.15	2.26	ELXM161VSN102MR35S		680	30 × 35	0.15	1.86	ELXM221VSN681MR35S
	1,200	25.4 × 50	0.15	2.54	ELXM161VSN122MQ50S		820	25.4 × 50	0.15	2.10	ELXM221VSN821MQ50S
	1,200	30 × 40	0.15	2.56	ELXM161VSN122MR40S		820	30 × 40	0.15	2.12	ELXM221VSN821MR40S
	1,200	35 × 30	0.15	2.52	ELXM161VSN122MA30S		820	35 × 30	0.15	2.08	ELXM221VSN821MA30S
	1,500	30 × 45	0.15	2.96	ELXM161VSN152MR45S		1,000	30 × 50	0.15	2.48	ELXM221VSN102MR50S
	1,500	35 × 35	0.15	2.89	ELXM161VSN152MA35S		1,000	35 × 40	0.15	2.46	ELXM221VSN102MA40S
	1,800	30 × 50	0.15	3.32	ELXM161VSN182MR50S		1,200	35 × 45	0.15	2.78	ELXM221VSN122MA45S
1,800	35 × 40	0.15	3.30	ELXM161VSN182MA40S	1,500	35 × 50	0.15	3.20	ELXM221VSN152MA50S		
2,200	35 × 50	0.15	3.87	ELXM161VSN222MA50S							
180	270	22 × 25	0.15	1.00	ELXM181VSN271MP25S	250	180	22 × 25	0.15	0.82	ELXM251VSN181MP25S
	330	22 × 30	0.15	1.16	ELXM181VSN331MP30S		220	22 × 30	0.15	0.95	ELXM251VSN221MP30S
	390	22 × 30	0.15	1.26	ELXM181VSN391MP30S		270	22 × 35	0.15	1.08	ELXM251VSN271MP35S
	390	25.4 × 25	0.15	1.26	ELXM181VSN391MQ25S		270	25.4 × 25	0.15	1.05	ELXM251VSN271MQ25S
	470	22 × 35	0.15	1.42	ELXM181VSN471MP35S		330	22 × 40	0.15	1.22	ELXM251VSN331MP40S
	470	25.4 × 30	0.15	1.42	ELXM181VSN471MQ30S		330	25.4 × 30	0.15	1.19	ELXM251VSN331MQ30S
	560	22 × 40	0.15	1.59	ELXM181VSN561MP40S		390	22 × 45	0.15	1.36	ELXM251VSN391MP45S
	560	25.4 × 30	0.15	1.55	ELXM181VSN561MQ30S		390	25.4 × 35	0.15	1.35	ELXM251VSN391MQ35S
	560	30 × 25	0.15	1.58	ELXM181VSN561MR25S		390	30 × 25	0.15	1.32	ELXM251VSN391MR25S
	680	22 × 45	0.15	1.79	ELXM181VSN681MP45S		470	22 × 50	0.15	1.49	ELXM251VSN471MP50S
	680	25.4 × 35	0.15	1.78	ELXM181VSN681MQ35S		470	25.4 × 40	0.15	1.52	ELXM251VSN471MQ40S
	680	30 × 30	0.15	1.79	ELXM181VSN681MR30S		470	30 × 30	0.15	1.49	ELXM251VSN471MR30S
	820	25.4 × 40	0.15	2.01	ELXM181VSN821MQ40S		560	25.4 × 45	0.15	1.70	ELXM251VSN561MQ45S
	820	30 × 35	0.15	2.04	ELXM181VSN821MR35S		560	30 × 35	0.15	1.69	ELXM251VSN561MR35S
	1,000	25.4 × 50	0.15	2.32	ELXM181VSN102MQ50S		680	25.4 × 50	0.15	1.91	ELXM251VSN681MQ50S
	1,000	30 × 35	0.15	2.26	ELXM181VSN102MR35S		680	30 × 40	0.15	1.93	ELXM251VSN681MR40S
	1,000	35 × 30	0.15	2.30	ELXM181VSN102MA30S		680	35 × 30	0.15	1.90	ELXM251VSN681MA30S
	1,200	30 × 45	0.15	2.65	ELXM181VSN122MR45S		820	30 × 45	0.15	2.19	ELXM251VSN821MR45S
	1,200	35 × 35	0.15	2.58	ELXM181VSN122MA35S		820	35 × 35	0.15	2.13	ELXM251VSN821MA35S
	1,500	30 × 50	0.15	3.03	ELXM181VSN152MR50S		1,000	35 × 40	0.15	2.46	ELXM251VSN102MA40S
1,500	35 × 40	0.15	3.01	ELXM181VSN152MA40S	1,200	35 × 50	0.15	2.86	ELXM251VSN122MA50S		
1,800	35 × 45	0.15	3.41	ELXM181VSN182MA45S							
2,200	35 × 50	0.15	3.87	ELXM181VSN222MA50S							
200	220	22 × 25	0.15	0.90	ELXM201VSN221MP25S	315	100	22 × 25	0.15	0.67	ELXM3B1VSN101MP25S
	270	22 × 30	0.15	1.05	ELXM201VSN271MP30S		120	22 × 30	0.15	0.77	ELXM3B1VSN121MP30S
	330	22 × 30	0.15	1.16	ELXM201VSN331MP30S		150	22 × 30	0.15	0.86	ELXM3B1VSN151MP30S
	330	25.4 × 25	0.15	1.16	ELXM201VSN331MQ25S		150	25.4 × 25	0.15	0.85	ELXM3B1VSN151MQ25S
	390	22 × 35	0.15	1.29	ELXM201VSN391MP35S		180	22 × 35	0.15	0.96	ELXM3B1VSN181MP35S
	390	25.4 × 30	0.15	1.29	ELXM201VSN391MQ30S		180	25.4 × 30	0.15	0.96	ELXM3B1VSN181MQ30S
	470	22 × 40	0.15	1.46	ELXM201VSN471MP40S		220	22 × 40	0.15	1.09	ELXM3B1VSN221MP40S
	470	25.4 × 30	0.15	1.42	ELXM201VSN471MQ30S		220	25.4 × 30	0.15	1.06	ELXM3B1VSN221MQ30S
	470	30 × 25	0.15	1.45	ELXM201VSN471MR25S		220	30 × 25	0.15	1.08	ELXM3B1VSN221MR25S
	560	22 × 45	0.15	1.63	ELXM201VSN561MP45S		270	22 × 45	0.15	1.24	ELXM3B1VSN271MP45S
	560	25.4 × 35	0.15	1.62	ELXM201VSN561MQ35S		270	25.4 × 35	0.15	1.23	ELXM3B1VSN271MQ35S
	560	30 × 30	0.15	1.62	ELXM201VSN561MR30S		270	30 × 30	0.15	1.23	ELXM3B1VSN271MR30S
	680	25.4 × 40	0.15	1.83	ELXM201VSN681MQ40S		330	25.4 × 40	0.15	1.40	ELXM3B1VSN331MQ40S
	680	30 × 30	0.15	1.79	ELXM201VSN681MR30S		330	30 × 35	0.15	1.42	ELXM3B1VSN331MR35S
	820	25.4 × 45	0.15	2.06	ELXM201VSN821MQ45S		330	35 × 30	0.15	1.45	ELXM3B1VSN331MA30S
	820	30 × 35	0.15	2.04	ELXM201VSN821MR35S		390	25.4 × 50	0.15	1.59	ELXM3B1VSN391MQ50S
	1,000	30 × 45	0.15	2.42	ELXM201VSN102MR45S		390	30 × 35	0.15	1.54	ELXM3B1VSN391MR35S
	1,000	35 × 30	0.15	2.30	ELXM201VSN102MA30S		390	35 × 30	0.15	1.57	ELXM3B1VSN391MA30S
	1,200	30 × 50	0.15	2.71	ELXM201VSN122MR50S		470	30 × 45	0.15	1.81	ELXM3B1VSN471MR45S
	1,200	35 × 40	0.15	2.70	ELXM201VSN122MA40S		470	35 × 35	0.15	1.77	ELXM3B1VSN471MA35S
1,500	35 × 45	0.15	3.11	ELXM201VSN152MA45S	560	30 × 50	0.15	2.03	ELXM3B1VSN561MR50S		
1,800	35 × 50	0.15	3.50	ELXM201VSN182MA50S	560	35 × 40	0.15	2.02	ELXM3B1VSN561MA40S		
					680	35 × 45	0.15	2.29	ELXM3B1VSN681MA45S		
					820	35 × 50	0.15	2.59	ELXM3B1VSN821MA50S		

◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.
350	100	22 × 25	0.15	0.67	ELXM351VSN101MP25S	420	56	22 × 25	0.20	0.50	ELXM421VSN560MP25S
	120	22 × 30	0.15	0.77	ELXM351VSN121MP30S		68	22 × 30	0.20	0.58	ELXM421VSN680MP30S
	120	25.4 × 25	0.15	0.76	ELXM351VSN121MQ25S		82	22 × 30	0.20	0.63	ELXM421VSN820MP30S
	150	22 × 35	0.15	0.88	ELXM351VSN151MP35S		82	25.4 × 25	0.20	0.63	ELXM421VSN820MQ25S
	150	25.4 × 30	0.15	0.88	ELXM351VSN151MQ30S		100	22 × 35	0.20	0.72	ELXM421VSN101MP35S
	180	22 × 40	0.15	0.99	ELXM351VSN181MP40S		100	25.4 × 30	0.20	0.72	ELXM421VSN101MQ30S
	180	25.4 × 30	0.15	0.96	ELXM351VSN181MQ30S		120	22 × 40	0.20	0.81	ELXM421VSN121MP40S
	180	30 × 25	0.15	0.98	ELXM351VSN181MR25S		120	25.4 × 30	0.20	0.79	ELXM421VSN121MQ30S
	220	22 × 45	0.15	1.12	ELXM351VSN221MP45S		120	30 × 25	0.20	0.80	ELXM421VSN121MR25S
	220	25.4 × 35	0.15	1.11	ELXM351VSN221MQ35S		150	22 × 45	0.20	0.92	ELXM421VSN151MP45S
	220	30 × 30	0.15	1.11	ELXM351VSN221MR30S		150	25.4 × 35	0.20	0.92	ELXM421VSN151MQ35S
	270	25.4 × 40	0.15	1.26	ELXM351VSN271MQ40S		150	30 × 30	0.20	0.92	ELXM421VSN151MR30S
	270	30 × 35	0.15	1.28	ELXM351VSN271MR35S		180	25.4 × 40	0.20	1.03	ELXM421VSN181MQ40S
	330	25.4 × 45	0.15	1.40	ELXM351VSN331MQ45S		180	30 × 35	0.20	1.05	ELXM421VSN181MR35S
	330	30 × 35	0.15	1.42	ELXM351VSN331MR35S		220	25.4 × 50	0.20	1.19	ELXM421VSN221MP50S
	330	35 × 30	0.15	1.45	ELXM351VSN331MA30S		220	30 × 35	0.20	1.16	ELXM421VSN221MR35S
	390	30 × 40	0.15	1.60	ELXM351VSN391MR40S		220	35 × 30	0.20	1.18	ELXM421VSN221MA30S
	390	35 × 35	0.15	1.61	ELXM351VSN391MA35S		270	30 × 45	0.20	1.38	ELXM421VSN271MR45S
	470	30 × 50	0.15	1.86	ELXM351VSN471MR50S		270	35 × 35	0.20	1.34	ELXM421VSN271MA35S
	470	35 × 40	0.15	1.85	ELXM351VSN471MA40S		330	30 × 50	0.20	1.56	ELXM421VSN331MR50S
560	35 × 40	0.15	2.02	ELXM351VSN561MA40S	330	35 × 40	0.20	1.55	ELXM421VSN331MA40S		
680	35 × 50	0.15	2.36	ELXM351VSN681MA50S	390	35 × 45	0.20	1.74	ELXM421VSN391MA45S		
400	68	22 × 25	0.15	0.55	ELXM401VSN680MP25S	470	35 × 50	0.20	1.96	ELXM421VSN471MA50S	
	82	22 × 30	0.15	0.63	ELXM401VSN820MP30S	450	47	22 × 25	0.20	0.46	ELXM451VSN470MP25S
	100	22 × 30	0.15	0.70	ELXM401VSN101MP30S		56	22 × 30	0.20	0.52	ELXM451VSN560MP30S
	100	25.4 × 25	0.15	0.70	ELXM401VSN101MQ25S		68	22 × 30	0.20	0.58	ELXM451VSN680MP30S
	120	22 × 35	0.15	0.79	ELXM401VSN121MP35S		68	25.4 × 25	0.20	0.58	ELXM451VSN680MQ25S
	120	25.4 × 30	0.15	0.79	ELXM401VSN121MQ30S		82	22 × 35	0.20	0.65	ELXM451VSN820MP35S
	150	22 × 40	0.15	0.90	ELXM401VSN151MP40S		82	25.4 × 30	0.20	0.65	ELXM451VSN820MQ30S
	150	25.4 × 30	0.15	0.88	ELXM401VSN151MQ30S		100	22 × 40	0.20	0.74	ELXM451VSN101MP40S
	150	30 × 25	0.15	0.90	ELXM401VSN151MR25S		100	25.4 × 30	0.20	0.72	ELXM451VSN101MQ30S
	180	22 × 45	0.15	0.99	ELXM401VSN181MP45S		100	30 × 25	0.20	0.73	ELXM451VSN101MR25S
	180	25.4 × 35	0.15	1.01	ELXM401VSN181MQ35S		120	22 × 45	0.20	0.83	ELXM451VSN121MP45S
	180	30 × 30	0.15	1.01	ELXM401VSN181MR30S		120	25.4 × 35	0.20	0.82	ELXM451VSN121MQ35S
	220	25.4 × 40	0.15	1.14	ELXM401VSN221MQ40S		120	30 × 30	0.20	0.82	ELXM451VSN121MR30S
	220	30 × 35	0.15	1.16	ELXM401VSN221MR35S		150	25.4 × 40	0.20	0.94	ELXM451VSN151MQ40S
	270	25.4 × 50	0.15	1.32	ELXM401VSN271MQ50S		150	30 × 35	0.20	0.96	ELXM451VSN151MR35S
	270	30 × 40	0.15	1.33	ELXM401VSN271MR40S		180	25.4 × 45	0.20	1.06	ELXM451VSN181MQ45S
	270	35 × 30	0.15	1.31	ELXM401VSN271MA30S		180	30 × 35	0.20	1.05	ELXM451VSN181MR35S
	330	30 × 45	0.15	1.52	ELXM401VSN331MR45S		180	35 × 30	0.20	1.07	ELXM451VSN181MA30S
	330	35 × 35	0.15	1.48	ELXM401VSN331MA35S		220	30 × 40	0.20	1.20	ELXM451VSN221MR40S
	390	30 × 50	0.15	1.69	ELXM401VSN391MR50S		220	35 × 35	0.20	1.21	ELXM451VSN221MA35S
390	35 × 40	0.15	1.68	ELXM401VSN391MA40S	270		30 × 50	0.20	1.41	ELXM451VSN271MR50S	
470	35 × 45	0.15	1.91	ELXM401VSN471MA45S	270	35 × 40	0.20	1.40	ELXM451VSN271MA40S		
560	35 × 50	0.15	2.14	ELXM401VSN561MA50S	330	35 × 45	0.20	1.60	ELXM451VSN331MA45S		
					390	35 × 50	0.20	1.79	ELXM451VSN391MA50S		

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
160 to 250V <sub>dc</sub>	0.81	1.00	1.17	1.32	1.45	1.50
315 to 450V <sub>dc</sub>	0.77	1.00	1.16	1.30	1.41	1.43

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.