

KMQ Series

- Endurance with ripple current : 2,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant



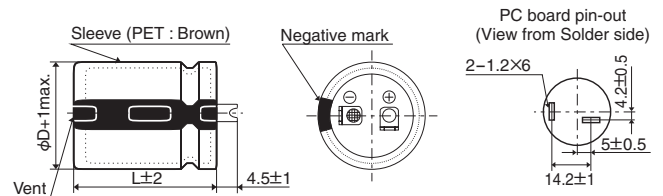
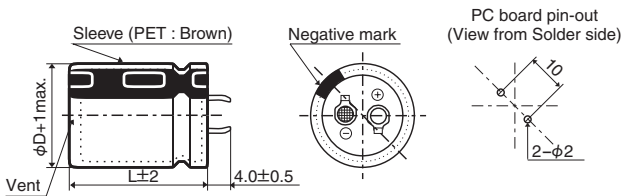
SPECIFICATIONS

Items	Characteristics							
Category	-40 to +105°C (35&50V _{dc}), -25 to +105°C (160 to 450V _{dc})							
Temperature Range								
Rated Voltage Range	35&50V _{dc} , 160 to 450V _{dc}							
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 _{dc})	35V	50V	160 to 250V	315 to 400V	420 & 450V		
	Nominal capacitance (µF)	10,000 > C ≥ 10,000	10,000 > C ≥ 10,000	—	—	—		
	tan δ (Max.)	0.30	0.35	0.25	0.30	0.15	0.15	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	35&50V	160 to 250V	315 to 450V				
	Z(-25°C)/Z(+20°C)	4	4	8				
	Z(-40°C)/Z(+20°C)	10	—	—				
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 2,000 hours at 105°C.							
	Capacitance change	≤ ±20% of the initial value						
	D.F. (tan δ)	≤ 200% 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]

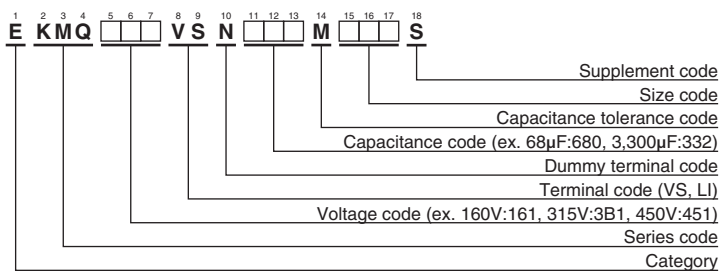
Terminal Code : VS (φ22 to φ35) : Standard

Terminal Code : LI (φ35)



The standard design has no plastic disc.

PART NUMBERING SYSTEM



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

◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.
250	680	35 × 25	0.15	1.70	EKMQ251VSN681MA25S	400	270	25.4 × 40	0.15	1.22	EKMQ401VSN271MQ40S
	820	25.4 × 45	0.15	2.00	EKMQ251VSN821MQ45S		270	30 × 30	0.15	1.22	EKMQ401VSN271MR30S
	820	30 × 35	0.15	2.00	EKMQ251VSN821MR35S		270	35 × 25	0.15	1.22	EKMQ401VSN271MA25S
	820	35 × 30	0.15	2.00	EKMQ251VSN821MA30S		330	25.4 × 45	0.15	1.44	EKMQ401VSN331MQ45S
	1,000	30 × 40	0.15	2.20	EKMQ251VSN102MR40S		330	30 × 35	0.15	1.44	EKMQ401VSN331MR35S
	1,000	35 × 30	0.15	2.20	EKMQ251VSN102MA30S		330	35 × 30	0.15	1.44	EKMQ401VSN331MA30S
	1,200	30 × 45	0.15	2.30	EKMQ251VSN122MR45S		390	25.4 × 50	0.15	1.55	EKMQ401VSN391MQ50S
	1,200	35 × 35	0.15	2.30	EKMQ251VSN122MA35S		390	30 × 40	0.15	1.55	EKMQ401VSN391MR40S
	1,500	35 × 45	0.15	2.50	EKMQ251VSN152MA45S		390	35 × 30	0.15	1.55	EKMQ401VSN391MA30S
	1,800	35 × 50	0.15	2.70	EKMQ251VSN182MA50S		470	30 × 45	0.15	1.68	EKMQ401VSN471MR45S
315	150	22 × 25	0.15	0.82	EKMQ3B1VSN151MP25S	470	35 × 35	0.15	1.68	EKMQ401VSN471MA35S	
	180	22 × 30	0.15	0.90	EKMQ3B1VSN181MP30S	560	30 × 50	0.15	1.90	EKMQ401VSN561MR50S	
	220	22 × 30	0.15	1.00	EKMQ3B1VSN221MP30S	560	35 × 40	0.15	1.90	EKMQ401VSN561MA40S	
	220	25.4 × 25	0.15	1.00	EKMQ3B1VSN221MQ25S	680	35 × 45	0.15	2.12	EKMQ401VSN681MA45S	
	270	22 × 35	0.15	1.10	EKMQ3B1VSN271MP35S	82	22 × 25	0.20	0.64	EKMQ421VSN820MP25S	
	270	25.4 × 30	0.15	1.10	EKMQ3B1VSN271MQ30S	100	22 × 25	0.20	0.66	EKMQ421VSN101MP25S	
	330	22 × 45	0.15	1.20	EKMQ3B1VSN331MP45S	100	25.4 × 25	0.20	0.66	EKMQ421VSN101MQ25S	
	330	25.4 × 35	0.15	1.20	EKMQ3B1VSN331MQ35S	120	22 × 30	0.20	0.81	EKMQ421VSN121MP30S	
	330	30 × 25	0.15	1.20	EKMQ3B1VSN331MR25S	120	25.4 × 25	0.20	0.81	EKMQ421VSN121MQ25S	
	390	22 × 45	0.15	1.30	EKMQ3B1VSN391MP45S	150	22 × 35	0.20	0.84	EKMQ421VSN151MP35S	
	390	25.4 × 40	0.15	1.30	EKMQ3B1VSN391MQ40S	150	25.4 × 30	0.20	0.84	EKMQ421VSN151MQ30S	
	390	30 × 30	0.15	1.30	EKMQ3B1VSN391MR30S	150	30 × 25	0.20	0.84	EKMQ421VSN151MR25S	
	390	35 × 25	0.15	1.30	EKMQ3B1VSN391MA25S	180	22 × 40	0.20	0.91	EKMQ421VSN181MP40S	
	470	25.4 × 45	0.15	1.40	EKMQ3B1VSN471MQ45S	180	25.4 × 30	0.20	0.91	EKMQ421VSN181MQ30S	
	470	30 × 35	0.15	1.40	EKMQ3B1VSN471MR35S	180	30 × 25	0.20	0.91	EKMQ421VSN181MR25S	
	470	35 × 25	0.15	1.40	EKMQ3B1VSN471MA25S	220	22 × 45	0.20	1.05	EKMQ421VSN221MP45S	
	560	25.4 × 50	0.15	1.50	EKMQ3B1VSN561MQ50S	220	25.4 × 35	0.20	1.05	EKMQ421VSN221MQ35S	
	560	30 × 40	0.15	1.50	EKMQ3B1VSN561MR40S	220	30 × 30	0.20	1.05	EKMQ421VSN221MR30S	
	560	35 × 30	0.15	1.50	EKMQ3B1VSN561MA30S	220	35 × 25	0.20	1.05	EKMQ421VSN221MA25S	
	680	30 × 45	0.15	1.70	EKMQ3B1VSN681MR45S	270	25.4 × 40	0.20	1.25	EKMQ421VSN271MQ40S	
680	35 × 35	0.15	1.70	EKMQ3B1VSN681MA35S	270	30 × 30	0.20	1.25	EKMQ421VSN271MR30S		
820	30 × 50	0.15	2.00	EKMQ3B1VSN821MR50S	270	35 × 25	0.20	1.25	EKMQ421VSN271MA25S		
820	35 × 40	0.15	2.00	EKMQ3B1VSN821MA40S	330	25.4 × 50	0.20	1.42	EKMQ421VSN331MQ50S		
1,000	35 × 45	0.15	2.30	EKMQ3B1VSN102MA45S	330	30 × 35	0.20	1.42	EKMQ421VSN331MR35S		
350	120	22 × 25	0.15	0.75	EKMQ351VSN121MP25S	330	35 × 30	0.20	1.42	EKMQ421VSN331MA30S	
	150	22 × 30	0.15	0.82	EKMQ351VSN151MP30S	390	30 × 40	0.20	1.61	EKMQ421VSN391MR40S	
	180	22 × 30	0.15	0.90	EKMQ351VSN181MP30S	390	35 × 35	0.20	1.61	EKMQ421VSN391MA35S	
	180	25.4 × 25	0.15	0.90	EKMQ351VSN181MQ25S	470	30 × 45	0.20	1.86	EKMQ421VSN471MR45S	
	220	22 × 35	0.15	1.00	EKMQ351VSN221MP35S	470	35 × 40	0.20	1.86	EKMQ421VSN471MA40S	
	220	25.4 × 30	0.15	1.00	EKMQ351VSN221MQ30S	560	35 × 45	0.20	2.10	EKMQ421VSN561MA45S	
	270	22 × 40	0.15	1.10	EKMQ351VSN271MP40S	680	35 × 50	0.20	2.20	EKMQ421VSN681MA50S	
	270	25.4 × 30	0.15	1.10	EKMQ351VSN271MQ30S	68	22 × 25	0.20	0.50	EKMQ451VSN680MP25S	
	270	30 × 25	0.15	1.10	EKMQ351VSN271MR25S	82	22 × 30	0.20	0.56	EKMQ451VSN820MP30S	
	330	22 × 45	0.15	1.20	EKMQ351VSN331MP45S	100	22 × 30	0.20	0.64	EKMQ451VSN101MP30S	
	330	25.4 × 40	0.15	1.20	EKMQ351VSN331MQ40S	100	25.4 × 25	0.20	0.64	EKMQ451VSN101MQ25S	
	330	30 × 30	0.15	1.20	EKMQ351VSN331MR30S	120	22 × 35	0.20	0.72	EKMQ451VSN121MP35S	
	390	25.4 × 45	0.15	1.30	EKMQ351VSN391MQ45S	120	25.4 × 30	0.20	0.72	EKMQ451VSN121MQ30S	
	390	30 × 35	0.15	1.30	EKMQ351VSN391MR35S	150	22 × 40	0.20	0.79	EKMQ451VSN151MP40S	
	470	25.4 × 50	0.15	1.40	EKMQ351VSN471MQ50S	150	25.4 × 30	0.20	0.79	EKMQ451VSN151MQ30S	
	470	30 × 35	0.15	1.40	EKMQ351VSN471MR35S	150	30 × 25	0.20	0.79	EKMQ451VSN151MR25S	
	470	35 × 30	0.15	1.40	EKMQ351VSN471MA30S	180	22 × 45	0.20	0.87	EKMQ451VSN181MP45S	
	560	30 × 45	0.15	1.50	EKMQ351VSN561MR45S	180	25.4 × 40	0.20	0.87	EKMQ451VSN181MQ40S	
	560	35 × 35	0.15	1.50	EKMQ351VSN561MA35S	180	30 × 30	0.20	0.87	EKMQ451VSN181MR30S	
	680	30 × 50	0.15	1.70	EKMQ351VSN681MR50S	220	25.4 × 45	0.20	1.00	EKMQ451VSN221MQ45S	
680	35 × 40	0.15	1.70	EKMQ351VSN681MA40S	220	30 × 30	0.20	1.00	EKMQ451VSN221MR30S		
820	35 × 45	0.15	1.90	EKMQ351VSN821MA45S	220	35 × 25	0.20	1.00	EKMQ451VSN221MA25S		
400	100	22 × 25	0.15	0.70	EKMQ401VSN101MP25S	270	25.4 × 50	0.20	1.19	EKMQ451VSN271MQ50S	
	120	22 × 30	0.15	0.75	EKMQ401VSN121MP30S	270	30 × 40	0.20	1.19	EKMQ451VSN271MR40S	
	150	22 × 30	0.15	0.88	EKMQ401VSN151MP30S	270	35 × 30	0.20	1.19	EKMQ451VSN271MA30S	
	150	25.4 × 25	0.15	0.88	EKMQ401VSN151MQ25S	330	30 × 45	0.20	1.38	EKMQ451VSN331MQ45S	
	180	22 × 35	0.15	0.95	EKMQ401VSN181MP35S	330	35 × 35	0.20	1.38	EKMQ451VSN331MA35S	
	180	25.4 × 30	0.15	0.95	EKMQ401VSN181MQ30S	390	30 × 50	0.20	1.55	EKMQ451VSN391MR50S	
	220	22 × 45	0.15	1.10	EKMQ401VSN221MP45S	390	35 × 40	0.20	1.55	EKMQ451VSN391MA40S	
	220	25.4 × 35	0.15	1.10	EKMQ401VSN221MQ35S	470	35 × 45	0.20	1.74	EKMQ451VSN471MA45S	
	220	30 × 25	0.15	1.10	EKMQ401VSN221MR25S	560	35 × 50	0.20	1.90	EKMQ451VSN561MA50S	
	270	22 × 50	0.15	1.22	EKMQ401VSN271MP50S						



KMQ Series

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
35, 50V _{dc}	0.95	1.00	1.03	1.05	1.08	1.08
160 to 250V _{dc}	0.81	1.00	1.17	1.32	1.45	1.50
315 to 450V _{dc}	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.