

# KMQ Series

- Downsized from current standard KMG series
- Solvent resistant type except 160 to 450V<sub>dc</sub>  
(see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

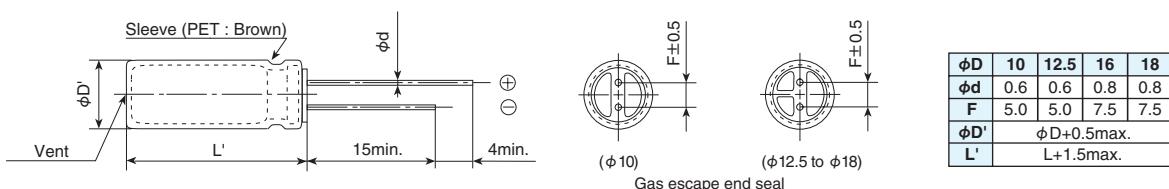


## ◆ SPECIFICATIONS

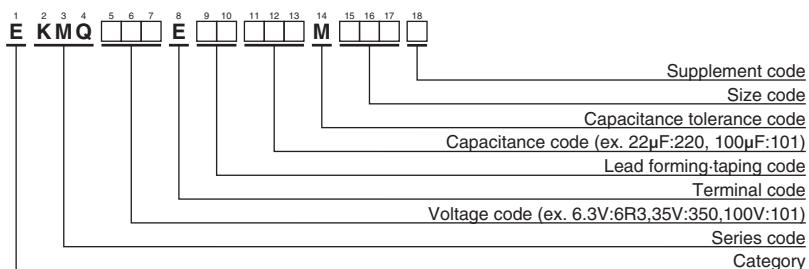
Items	Characteristics													
<b>Category</b> <b>Temperature Range</b>	-55 to +105°C(6.3 to 100V <sub>dc</sub> ) -40 to +105°C(160 to 400V <sub>dc</sub> ) -25 to +105°C(450V <sub>dc</sub> )													
<b>Rated Voltage Range</b>	6.3 to 450V <sub>dc</sub>													
<b>Capacitance Tolerance</b>	$\pm 20\%$ (M) (at 20°C, 120Hz)													
<b>Leakage Current</b>	6.3 to 100V <sub>dc</sub>						160 to 450V <sub>dc</sub>							
	I=0.03CV or 4μA, whichever is greater.						CV≤1,000	I=0.1CV+40 max.						
							CV>1,000	I=0.04CV+100 max.						
Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 1 minute)														
<b>Dissipation Factor (tan δ)</b>	Rated voltage (V <sub>dc</sub> )		6.3V	10V	16V	25V	35V	50V	63V	100V	160 to 250V	350 to 400V	450V	
	tan δ (Max.)		0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.24	0.24	
When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)														
<b>Low Temperature Characteristics (Max. Impedance Ratio)</b>	Rated voltage (V <sub>dc</sub> )		6.3V	10V	16V	25V	35V	50V	63 to 100V		160 to 200V	250V	350V	
	Z(-25°C)/Z(+20°C)		5	4	3	2	2	2	3		3	4	4	
	Z(-40°C)/Z(+20°C)		10	8	6	4	3	3	4		4	6	6	
<b>Endurance</b>	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		$\leq \pm 20\%$ of the initial value											
	D.F. (tan δ)		$\leq 200\%$ of the initial specified value											
	Leakage current		$\leq$ The initial specified value											
<b>Shelf Life</b>	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.													
	Rated voltage		6.3 to 100V <sub>dc</sub>						160 to 450V <sub>dc</sub>					
	Capacitance change		$\leq \pm 20\%$ of the initial value						$\leq \pm 20\%$ of the initial value					
	D.F. (tan δ)		$\leq 200\%$ of the initial specified value						$\leq 200\%$ of the initial specified value					
	Leakage current		$\leq$ The initial specified value						$\leq 500\%$ of the initial specified value					

## ◆ DIMENSIONS [mm]

### ● Terminal Code : E



## ◆PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

## KMQ Series

## ◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA rms/105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA rms/105°C, 120Hz)	Part No.
6.3	2,200	10 × 16	0.30	635	EKMQ6R3E□□222MJ16S	63	220	10 × 16	0.10	335	EKMQ630E□□221MJ16S
	3,300	10 × 20	0.32	840	EKMQ6R3E□□332MJ20S		330	10 × 20	0.10	510	EKMQ630E□□331MJ20S
	4,700	12.5 × 20	0.34	1,090	EKMQ6R3E□□472MK20S		470	12.5 × 20	0.10	640	EKMQ630E□□471MK20S
	6,800	12.5 × 25	0.38	1,350	EKMQ6R3E□□682MK25S		1,000	16 × 25	0.10	930	EKMQ630E□□102ML25S
	10,000	16 × 25	0.46	1,650	EKMQ6R3E□□103ML25S		2,200	18 × 35.5	0.12	1,650	EKMQ630E□□222MMP1S
	15,000	16 × 31.5	0.56	1,820	EKMQ6R3E□□153MLN3S		68	10 × 12.5	0.08	190	EKMQ101E□□680MJC5S
	22,000	18 × 35.5	0.70	2,280	EKMQ6R3E□□223MMP1S		100	10 × 16	0.08	240	EKMQ101E□□101MJ16S
	1,000	10 × 12.5	0.24	460	EKMQ100E□□102MJC5S	100	220	12.5 × 20	0.08	390	EKMQ101E□□221MK20S
	2,200	10 × 16	0.26	705	EKMQ100E□□222MJ16S		330	12.5 × 25	0.08	540	EKMQ101E□□331MK25S
	3,300	12.5 × 20	0.28	1,000	EKMQ100E□□332MK20S		470	16 × 25	0.08	715	EKMQ101E□□471ML25S
	4,700	12.5 × 25	0.30	1,260	EKMQ100E□□472MK25S		1,000	18 × 35.5	0.08	960	EKMQ101E□□102MMP1S
	6,800	16 × 25	0.34	1,570	EKMQ100E□□682ML25S		68	12.5 × 20	0.20	250	EKMQ161E□□680MK20S
10	10,000	16 × 31.5	0.42	1,820	EKMQ100E□□103MLN3S		100	12.5 × 25	0.20	310	EKMQ161E□□101MK25S
	15,000	16 × 35.5	0.52	2,050	EKMQ100E□□153MLP1S		220	16 × 31.5	0.20	540	EKMQ161E□□221MLN3S
	22,000	18 × 40	0.66	2,420	EKMQ100E□□223MM40S		330	18 × 35.5	0.20	705	EKMQ161E□□331MMP1S
	1,000	10 × 12.5	0.20	500	EKMQ160E□□102MJC5S		470	18 × 40	0.20	855	EKMQ161E□□471MM40S
	2,200	10 × 20	0.22	710	EKMQ160E□□222MJ20S	160	47	12.5 × 20	0.20	195	EKMQ201E□□470MK20S
16	3,300	12.5 × 25	0.24	1,170	EKMQ160E□□332MK25S		68	12.5 × 25	0.20	250	EKMQ201E□□680MK25S
	4,700	16 × 25	0.26	1,500	EKMQ160E□□472ML25S		100	16 × 25	0.20	335	EKMQ201E□□101ML25S
	6,800	16 × 25	0.30	1,600	EKMQ160E□□682ML25S		220	16 × 35.5	0.20	500	EKMQ201E□□221MLP1S
	10,000	16 × 35.5	0.38	1,930	EKMQ160E□□103MLP1S		330	18 × 40	0.20	675	EKMQ201E□□331MM40S
	15,000	18 × 40	0.48	2,210	EKMQ160E□□153MM40S		47	12.5 × 20	0.20	190	EKMQ251E□□470MK20S
25	470	10 × 12.5	0.16	380	EKMQ250E□□471MJC5S	250	68	16 × 25	0.20	270	EKMQ251E□□680ML25S
	1,000	10 × 16	0.16	610	EKMQ250E□□102MJ16S		100	16 × 25	0.20	310	EKMQ251E□□101ML25S
	2,200	12.5 × 25	0.18	1,090	EKMQ250E□□222MK25S		220	18 × 35.5	0.20	485	EKMQ251E□□221MMP1S
	3,300	16 × 25	0.20	1,400	EKMQ250E□□332ML25S	350	22	12.5 × 20	0.24	130	EKMQ351E□□220MK20S
	4,700	16 × 25	0.22	1,570	EKMQ250E□□472ML25S		33	12.5 × 25	0.24	170	EKMQ351E□□330MK25S
35	6,800	16 × 35.5	0.26	1,850	EKMQ250E□□682MLP1S		47	16 × 25	0.24	230	EKMQ351E□□470ML25S
	10,000	18 × 40	0.34	2,000	EKMQ250E□□103MM40S		68	16 × 25	0.24	285	EKMQ351E□□680ML25S
	330	10 × 12.5	0.14	350	EKMQ350E□□331MJC5S		100	18 × 31.5	0.24	375	EKMQ351E□□101MMN3S
	470	10 × 16	0.14	460	EKMQ350E□□471MJ16S	400	22	12.5 × 25	0.24	145	EKMQ401E□□220MK25S
	1,000	12.5 × 20	0.14	810	EKMQ350E□□102MK20S		33	16 × 25	0.24	195	EKMQ401E□□330ML25S
35	2,200	16 × 25	0.16	1,260	EKMQ350E□□222ML25S		47	16 × 25	0.24	200	EKMQ401E□□470ML25S
	3,300	16 × 31.5	0.18	1,500	EKMQ350E□□332MLN3S		68	16 × 31.5	0.24	240	EKMQ401E□□680MLN3S
	4,700	16 × 35.5	0.20	1,780	EKMQ350E□□472MLP1S		100	18 × 35.5	0.24	310	EKMQ401E□□101MMP1S
	6,800	18 × 40	0.24	2,000	EKMQ350E□□682MM40S	450	22	12.5 × 25	0.24	100	EKMQ451E□□220MK25S
	220	10 × 12.5	0.12	300	EKMQ500E□□221MJC5S		33	16 × 25	0.24	125	EKMQ451E□□330ML25S
50	330	10 × 16	0.12	410	EKMQ500E□□331MJ16S		47	16 × 31.5	0.24	155	EKMQ451E□□470MLN3S
	470	10 × 20	0.12	540	EKMQ500E□□471MJ20S		68	18 × 35.5	0.24	185	EKMQ451E□□680MMP1S
	1,000	12.5 × 25	0.12	950	EKMQ500E□□102MK25S		100	18 × 40	0.24	200	EKMQ451E□□101MM40S
	2,200	16 × 31.5	0.14	1,410	EKMQ500E□□222MLN3S						
	3,300	18 × 35.5	0.16	1,770	EKMQ500E□□332MMP1S						

□□ : Enter the appropriate lead forming or taping code.

\*1: Assembly boards with the designated products attached cannot be cleaned.

## ◆ RATED RIPPLE CURRENT MULTIPLIERS

## ◎ Frequency Multipliers

Capacitance(μF)	Frequency(Hz)	50	120	300	1k	10k	100k
22 to 68		0.75	1.00	1.25	1.50	1.75	1.80
100 to 1,000		0.80	1.00	1.15	1.30	1.40	1.50
2,200 to		0.85	1.00	1.03	1.05	1.08	1.08

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.  
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The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

[Part Numbering System](#)[Part Numbering System \(Appendix\)](#)[Standardization](#)[Available Items by Manufacturing Locations](#)[Environmental Measures](#)[Technical Note](#)[Precautions and Guidelines](#)[Recommended Soldering Conditions](#)[Taping, Lead-preforming and Packaging](#)[Available Terminals for Snap-in and Screw Mount Type](#)