

KMS Series

- The lower temperature range of the category temperature range has been expanded.
- For solar power generation
- Endurance with ripple current : 105°C 3,000 hours
- Rated voltage range : 160 to 600V
- Capacitance range : 47 to 3,300μF
- Non solvent resistant type
- RoHS2 Compliant



600V Lineup!

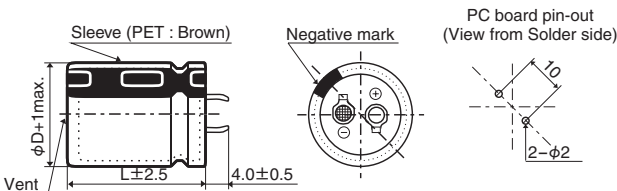


◆ SPECIFICATIONS

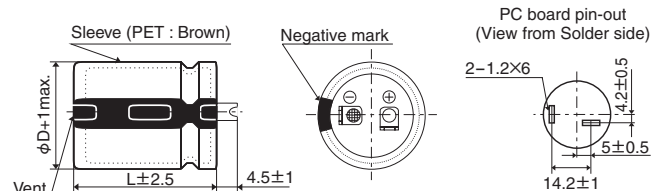
Items	Characteristics		
Category Temperature Range	-40 to +105°C(160 to 500V _{dc})		-25 to +105°C(550 to 600V _{dc})
Rated Voltage Range	160 to 600V _{dc}		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current	I ≤ 3√CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 5 minutes)		
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	160 to 400V	420 to 600V
	tan δ (Max.)	0.15	0.20
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	160 to 400V	420 to 600V
	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 3,000 hours at 105°C.		
	Capacitance change	≤ ±20% of the initial value	
	D.F. (tan δ)	≤ 200% of the initial specified value (600V _{dc} : ≤ 300%)	
	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

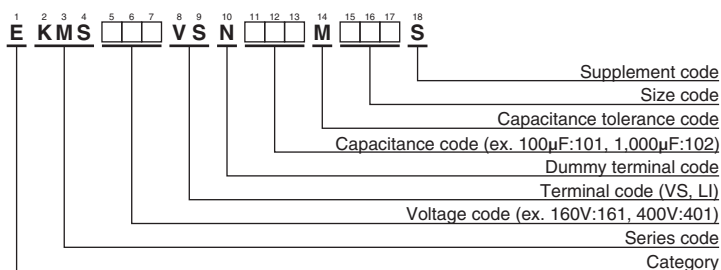


● Terminal Code : LI (φ35)



The standard design has no plastic disc.

◆ PART NUMBERING SYSTEM



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



STANDARD RATINGS

Table with columns: WV (Vdc), Cap (µF), Case size φD×L(mm), tan δ, Rated ripple current (Arms/105°C, 120Hz), Part No. The table is organized into four main sections based on WV (160, 180, 200, 200) and further subdivided by Cap values.

Product specifications in this catalog are subject to change without notice. Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

◆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.
400	390	25.4 × 50	0.15	1.66	EKMS401VSN391MQ50S	500	47	22 × 25	0.20	0.51	EKMS501VSN470MP25S
	390	30 × 35	0.15	1.61	EKMS401VSN391MR35S		56	22 × 30	0.20	0.58	EKMS501VSN560MP30S
	470	30 × 40	0.15	1.82	EKMS401VSN471MR40S		68	25.4 × 25	0.20	0.65	EKMS501VSN680MQ25S
	470	35 × 30	0.15	1.85	EKMS401VSN471MA30S		82	22 × 35	0.20	0.72	EKMS501VSN820MP35S
	560	30 × 45	0.15	2.04	EKMS401VSN561MR45S		82	25.4 × 30	0.20	0.74	EKMS501VSN820MQ30S
	560	30 × 50	0.15	2.07	EKMS401VSN561MR50S		100	22 × 45	0.20	0.83	EKMS501VSN101MP45S
	560	35 × 35	0.15	2.05	EKMS401VSN561MA35S		100	30 × 25	0.20	0.82	EKMS501VSN101MR25S
	680	35 × 40	0.15	2.34	EKMS401VSN681MA40S		120	22 × 50	0.20	0.93	EKMS501VSN121MP50S
	680	35 × 45	0.15	2.40	EKMS401VSN681MA45S		120	25.4 × 35	0.20	0.93	EKMS501VSN121MQ35S
	820	35 × 50	0.15	2.69	EKMS401VSN821MA50S		120	30 × 30	0.20	0.91	EKMS501VSN121MR30S
420	100	22 × 25	0.20	0.70	EKMS421VSN121MP25S	150	25.4 × 45	0.20	1.08	EKMS501VSN151MR45S	
	120	22 × 30	0.20	0.81	EKMS421VSN121MP30S	150	30 × 35	0.20	1.04	EKMS501VSN151MR35S	
	120	25.4 × 25	0.20	0.81	EKMS421VSN121MQ25S	150	35 × 25	0.20	0.99	EKMS501VSN151MA25S	
	150	22 × 35	0.20	0.93	EKMS421VSN151MP35S	180	25.4 × 50	0.20	1.20	EKMS501VSN181MQ50S	
	180	22 × 40	0.20	1.04	EKMS421VSN181MP40S	180	30 × 40	0.20	1.17	EKMS501VSN181MR40S	
	180	25.4 × 30	0.20	1.02	EKMS421VSN181MQ30S	180	35 × 30	0.20	1.10	EKMS501VSN181MA30S	
	180	30 × 25	0.20	1.06	EKMS421VSN181MR25S	220	30 × 45	0.20	1.33	EKMS501VSN221MR45S	
	220	22 × 45	0.20	1.17	EKMS421VSN221MP45S	220	35 × 35	0.20	1.23	EKMS501VSN221MA35S	
	220	22 × 50	0.20	1.20	EKMS421VSN221MP50S	270	30 × 50	0.20	1.50	EKMS501VSN271MR50S	
	220	25.4 × 35	0.20	1.18	EKMS421VSN221MQ35S	270	35 × 40	0.20	1.42	EKMS501VSN271MA40S	
	220	30 × 30	0.20	1.18	EKMS421VSN221MR30S	330	35 × 45	0.20	1.60	EKMS501VSN331MA45S	
	270	25.4 × 40	0.20	1.33	EKMS421VSN271MQ40S	390	35 × 50	0.20	1.78	EKMS501VSN391MA50S	
	270	25.4 × 45	0.20	1.36	EKMS421VSN271MQ45S	470	35 × 60	0.20	2.03	EKMS501VSN471MA60S	
	270	35 × 25	0.20	1.38	EKMS421VSN271MA25S	550	82	22 × 35	0.20	0.72	EKMS551VSN820MP35S
	330	25.4 × 50	0.20	1.52	EKMS421VSN331MQ50S		82	25.4 × 30	0.20	0.74	EKMS551VSN820MQ30S
	330	30 × 35	0.20	1.48	EKMS421VSN331MR35S		100	22 × 45	0.20	0.83	EKMS551VSN101MP45S
	330	30 × 40	0.20	1.52	EKMS421VSN331MR40S		100	25.4 × 35	0.20	0.85	EKMS551VSN101MQ35S
	330	35 × 30	0.20	1.55	EKMS421VSN331MA30S		100	30 × 25	0.20	0.82	EKMS551VSN101MR25S
	390	30 × 45	0.20	1.70	EKMS421VSN391MR45S		120	22 × 50	0.20	0.93	EKMS551VSN121MP50S
	390	35 × 35	0.20	1.71	EKMS421VSN391MA35S		120	25.4 × 40	0.20	0.95	EKMS551VSN121MQ40S
470	30 × 50	0.20	1.90	EKMS421VSN471MR50S	120		30 × 30	0.20	0.91	EKMS551VSN121MR30S	
470	35 × 40	0.20	1.95	EKMS421VSN471MA40S	120		35 × 25	0.20	0.88	EKMS551VSN121MA25S	
560	35 × 45	0.20	2.17	EKMS421VSN561MA45S	150		25.4 × 45	0.20	1.08	EKMS551VSN151MQ45S	
680	35 × 50	0.20	2.45	EKMS421VSN681MA50S	150		30 × 35	0.20	1.04	EKMS551VSN151MR35S	
450	82	22 × 25	0.20	0.64	EKMS451VSN820MP25S		180	25.4 × 50	0.20	1.20	EKMS551VSN181MQ50S
	120	22 × 30	0.20	0.81	EKMS451VSN121MP30S		180	30 × 40	0.20	1.17	EKMS551VSN181MR40S
	120	22 × 35	0.20	0.83	EKMS451VSN121MP35S		180	35 × 30	0.20	1.10	EKMS551VSN181MA30S
	120	25.4 × 25	0.20	0.81	EKMS451VSN121MQ25S		220	30 × 45	0.20	1.33	EKMS551VSN221MR45S
	150	22 × 40	0.20	0.94	EKMS451VSN151MP40S		220	35 × 35	0.20	1.23	EKMS551VSN221MA35S
	150	25.4 × 30	0.20	0.93	EKMS451VSN151MQ30S		270	30 × 50	0.20	1.50	EKMS551VSN271MR50S
	180	22 × 45	0.20	1.06	EKMS451VSN181MP45S		270	35 × 40	0.20	1.42	EKMS551VSN271MA40S
	180	25.4 × 35	0.20	1.06	EKMS451VSN181MQ35S		330	35 × 45	0.20	1.60	EKMS551VSN331MA45S
	180	30 × 25	0.20	1.06	EKMS451VSN181MR25S		330	35 × 50	0.20	1.64	EKMS551VSN331MA50S
	220	22 × 50	0.20	1.20	EKMS451VSN221MP50S	470	35 × 60	0.20	2.03	EKMS551VSN471MA60S	
	220	25.4 × 40	0.20	1.20	EKMS451VSN221MQ40S	600	100	30 × 30	0.20	0.83	EKMS601VSN101MR30S
	220	30 × 30	0.20	1.18	EKMS451VSN221MR30S		100	35 × 25	0.20	0.85	EKMS601VSN101MA25S
	220	35 × 25	0.20	1.24	EKMS451VSN221MA25S		120	30 × 35	0.20	0.93	EKMS601VSN121MR35S
	270	25.4 × 45	0.20	1.36	EKMS451VSN271MQ45S		150	30 × 40	0.20	1.07	EKMS601VSN151MR40S
	270	25.4 × 50	0.20	1.38	EKMS451VSN271MQ50S		150	35 × 30	0.20	1.06	EKMS601VSN151MA30S
	270	30 × 35	0.20	1.34	EKMS451VSN271MR35S		180	30 × 45	0.20	1.20	EKMS601VSN181MR45S
	270	35 × 30	0.20	1.40	EKMS451VSN271MA30S		180	30 × 50	0.20	1.22	EKMS601VSN181MR50S
	330	30 × 40	0.20	1.52	EKMS451VSN331MR40S		180	35 × 35	0.20	1.18	EKMS601VSN181MA35S
	390	30 × 45	0.20	1.70	EKMS451VSN391MR45S		220	30 × 60	0.20	1.40	EKMS601VSN221MR60S
	390	30 × 50	0.20	1.73	EKMS451VSN391MR50S		220	35 × 40	0.20	1.35	EKMS601VSN221MA40S
390	35 × 35	0.20	1.71	EKMS451VSN391MA35S	220	35 × 45	0.20	1.38	EKMS601VSN221MA45S		
470	35 × 40	0.20	1.95	EKMS451VSN471MA40S	270	35 × 50	0.20	1.56	EKMS601VSN271MA50S		
470	35 × 45	0.20	1.99	EKMS451VSN471MA45S	330	35 × 60	0.20	1.79	EKMS601VSN331MA60S		
560	35 × 50	0.20	2.22	EKMS451VSN561MA50S							

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
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
500 to 600V _{dc}	0.70	1.00	1.16	1.30	1.41	1.43

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.
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
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](#)

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Chemi-Con:

[EKMS201VSN122MA30S](#) [EKMS401VSN471MA30S](#) [EKMS201VSN272MA50S](#) [EKMS161VSN272MR50S](#)
[EKMS401VSN471MR40S](#) [EKMS401VSN121MP25S](#) [EKMS451VSN221MP50S](#) [EKMS161VSN122MP50S](#)
[EKMS421VSN681MA50S](#) [EKMS161VSN102MP40S](#) [EKMS161VSN102MP45S](#) [EKMS161VSN102MQ35S](#)
[EKMS161VSN102MR25S](#) [EKMS161VSN122MA25S](#) [EKMS161VSN122MQ40S](#) [EKMS161VSN122MR30S](#)
[EKMS161VSN152MQ45S](#) [EKMS161VSN152MR35S](#) [EKMS161VSN182MA30S](#) [EKMS161VSN182MQ50S](#)
[EKMS161VSN182MR40S](#) [EKMS161VSN222MA35S](#) [EKMS161VSN222MR45S](#) [EKMS161VSN272MA40S](#)
[EKMS161VSN272MA45S](#) [EKMS161VSN332MA50S](#) [EKMS161VSN471MP25S](#) [EKMS161VSN681MP30S](#)
[EKMS161VSN681MQ25S](#) [EKMS161VSN821MP35S](#) [EKMS161VSN821MQ30S](#) [EKMS181VSN102MP45S](#)
[EKMS181VSN102MP50S](#) [EKMS181VSN102MQ35S](#) [EKMS181VSN102MQ40S](#) [EKMS181VSN102MR30S](#)
[EKMS181VSN122MA25S](#) [EKMS181VSN122MQ45S](#) [EKMS181VSN122MR35S](#) [EKMS181VSN152MA30S](#)
[EKMS181VSN152MQ50S](#) [EKMS181VSN152MR40S](#) [EKMS181VSN182MA35S](#) [EKMS181VSN182MR45S](#)
[EKMS181VSN222MA40S](#) [EKMS181VSN222MR50S](#) [EKMS181VSN272MA45S](#) [EKMS181VSN272MA50S](#)
[EKMS181VSN391MP25S](#) [EKMS181VSN561MP30S](#) [EKMS181VSN561MQ25S](#) [EKMS181VSN681MP35S](#)
[EKMS181VSN821MP40S](#) [EKMS181VSN821MQ30S](#) [EKMS181VSN821MR25S](#) [EKMS201VSN102MA25S](#)
[EKMS201VSN102MP50S](#) [EKMS201VSN102MQ40S](#) [EKMS201VSN102MR30S](#) [EKMS201VSN122MQ45S](#)
[EKMS201VSN122MQ50S](#) [EKMS201VSN122MR35S](#) [EKMS201VSN152MA35S](#) [EKMS201VSN152MR40S](#)
[EKMS201VSN182MA40S](#) [EKMS201VSN182MR45S](#) [EKMS201VSN182MR50S](#) [EKMS201VSN222MA45S](#)
[EKMS201VSN391MP25S](#) [EKMS201VSN471MP30S](#) [EKMS201VSN561MP35S](#) [EKMS201VSN561MQ25S](#)
[EKMS201VSN681MP40S](#) [EKMS201VSN681MQ30S](#) [EKMS201VSN821MP45S](#) [EKMS201VSN821MR25S](#)
[EKMS251VSN102MA30S](#) [EKMS251VSN102MQ50S](#) [EKMS251VSN102MR40S](#) [EKMS251VSN122MA35S](#)
[EKMS251VSN122MR45S](#) [EKMS251VSN122MR50S](#) [EKMS251VSN152MA40S](#) [EKMS251VSN152MA45S](#)
[EKMS251VSN182MA50S](#) [EKMS251VSN271MP25S](#) [EKMS251VSN331MP30S](#) [EKMS251VSN391MP35S](#)
[EKMS251VSN391MQ25S](#) [EKMS251VSN471MP40S](#) [EKMS251VSN471MQ30S](#) [EKMS251VSN561MP45S](#)
[EKMS251VSN561MQ35S](#) [EKMS251VSN561MR25S](#) [EKMS251VSN681MA25S](#) [EKMS251VSN681MP50S](#)
[EKMS251VSN681MQ40S](#) [EKMS251VSN681MR30S](#) [EKMS251VSN821MQ45S](#) [EKMS3B1VSN102MA45S](#)