

KHV Series New!

- The KMR series has been improved to have a higher capacitance and ripple current.
- Endurance with ripple current : 2,000 hours at 105°C
- Rated voltage range : 350 to 400V_{dc}, Capacitance range : 160 to 1,610μF
- For inverter control, switching power supplies
- Non solvent resistant type
- RoHS2 Compliant
- The logo mark printed on the sleeve will be changed.

KHV

↑
Downsized
Higher ripple
KMR

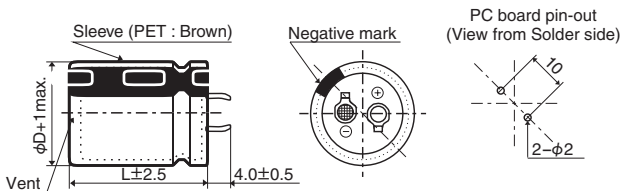


◆ SPECIFICATIONS

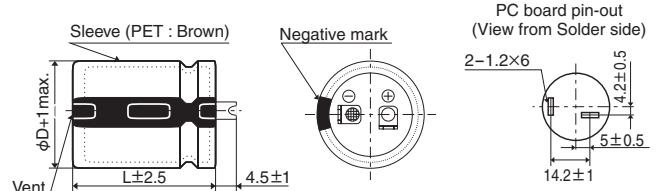
Items	Characteristics	
Category	-40 to +105°C	
Temperature Range	-40 to +105°C	
Rated Voltage Range	350 to 400V _{dc}	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	I ≤ 3√CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 5 minutes)	
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	350 to 400V
	tan δ (Max.)	0.15 (at 20°C, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	350 to 400V
	Z(-25°C)/Z(+20°C)	5
	Z(-40°C)/Z(+20°C)	20 (at 120Hz)
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

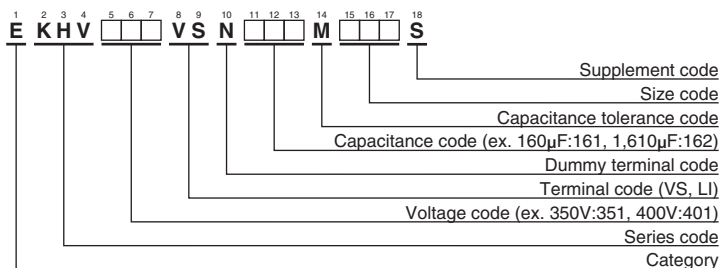


• Terminal Code : LI (φ30, φ35)



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.	
350	180	22 × 25	0.15	1.43	EKHV351VSN181MP25S	375	580	30 × 35	0.15	2.70	EKHV3H1VSN581MR35S	
	240	22 × 30	0.15	1.73	EKHV351VSN241MP30S		600	25.4 × 50	0.15	2.95	EKHV3H1VSN601MQ50S	
	260	25.4 × 25	0.15	1.72	EKHV351VSN261MQ25S		610	35 × 30	0.15	2.51	EKHV3H1VSN611MA30S	
	290	22 × 35	0.15	1.95	EKHV351VSN291MP35S		670	25.4 × 55	0.15	3.17	EKHV3H1VSN671MQ55S	
	330	25.4 × 30	0.15	1.99	EKHV351VSN331MQ30S		690	30 × 40	0.15	3.03	EKHV3H1VSN691MR40S	
	350	22 × 40	0.15	2.19	EKHV351VSN351MP40S		740	25.4 × 60	0.15	3.39	EKHV3H1VSN741MQ60S	
	390	30 × 25	0.15	2.14	EKHV351VSN391MR25S		760	35 × 35	0.15	2.85	EKHV3H1VSN761MA35S	
	400	22 × 45	0.15	2.39	EKHV351VSN401MP45S		800	30 × 45	0.15	3.34	EKHV3H1VSN801MR45S	
	410	25.4 × 35	0.15	2.31	EKHV351VSN411MQ35S		910	30 × 50	0.15	3.63	EKHV3H1VSN911MR50S	
	460	22 × 50	0.15	2.62	EKHV351VSN461MP50S		910	35 × 40	0.15	3.22	EKHV3H1VSN911MA40S	
	490	25.4 × 40	0.15	2.57	EKHV351VSN491MQ40S		1,010	30 × 55	0.15	3.90	EKHV3H1VSN102MR55S	
	500	35 × 25	0.15	2.24	EKHV351VSN501MA25S		1,060	35 × 45	0.15	3.57	EKHV3H1VSN1A2MA45S	
	510	22 × 55	0.15	2.81	EKHV351VSN511MP55S		1,120	30 × 60	0.15	4.18	EKHV3H1VSN112MR60S	
	510	30 × 30	0.15	2.47	EKHV351VSN511MR30S		1,200	35 × 50	0.15	3.88	EKHV3H1VSN122MA50S	
	560	25.4 × 45	0.15	2.81	EKHV351VSN561MQ45S		1,350	35 × 55	0.15	4.20	EKHV3H1VSN1D2MA55S	
	570	22 × 60	0.15	3.02	EKHV351VSN571MP60S		1,500	35 × 60	0.15	4.51	EKHV3H1VSN152MA60S	
	620	30 × 35	0.15	2.79	EKHV351VSN621MR35S		400	160	22 × 25	0.15	1.35	EKHV401VSN161MP25S
	640	25.4 × 50	0.15	3.05	EKHV351VSN641MQ50S			200	22 × 30	0.15	1.58	EKHV401VSN201MP30S
	660	35 × 30	0.15	2.62	EKHV351VSN661MA30S			220	25.4 × 25	0.15	1.58	EKHV401VSN221MQ25S
	720	25.4 × 55	0.15	3.29	EKHV351VSN721MQ55S			250	22 × 35	0.15	1.81	EKHV401VSN251MP35S
	740	30 × 40	0.15	3.14	EKHV351VSN741MR40S			290	25.4 × 30	0.15	1.86	EKHV401VSN291MQ30S
	790	25.4 × 60	0.15	3.50	EKHV351VSN791MQ60S			300	22 × 40	0.15	2.03	EKHV401VSN301MP40S
	820	35 × 35	0.15	2.96	EKHV351VSN821MA35S			340	30 × 25	0.15	1.99	EKHV401VSN341MR25S
	860	30 × 45	0.15	3.47	EKHV351VSN861MR45S			350	22 × 45	0.15	2.23	EKHV401VSN351MP45S
970	30 × 50	0.15	3.74	EKHV351VSN971MR50S	350	25.4 × 35		0.15	2.13	EKHV401VSN351MQ35S		
980	35 × 40	0.15	3.34	EKHV351VSN981MA40S	390	22 × 50		0.15	2.41	EKHV401VSN391MP50S		
1,090	30 × 55	0.15	4.05	EKHV351VSN112MR55S	420	25.4 × 40		0.15	2.38	EKHV401VSN421MQ40S		
1,130	35 × 45	0.15	3.69	EKHV351VSN1B2MA45S	430	35 × 25		0.15	2.08	EKHV401VSN431MA25S		
1,210	30 × 60	0.15	4.34	EKHV351VSN122MR60S	440	22 × 55		0.15	2.61	EKHV401VSN441MP55S		
1,290	35 × 50	0.15	4.02	EKHV351VSN132MA50S	440	30 × 30		0.15	2.29	EKHV401VSN441MR30S		
1,450	35 × 55	0.15	4.35	EKHV351VSN1E2MA55S	480	25.4 × 45		0.15	2.60	EKHV401VSN481MQ45S		
1,610	35 × 60	0.15	4.67	EKHV351VSN162MA60S	490	22 × 60		0.15	2.80	EKHV401VSN491MP60S		
375	170	22 × 25	0.15	1.39	EKHV3H1VSN171MP25S	540		30 × 35	0.15	2.60	EKHV401VSN541MR35S	
	220	22 × 30	0.15	1.66	EKHV3H1VSN221MP30S	550		25.4 × 50	0.15	2.83	EKHV401VSN551MQ50S	
	240	25.4 × 25	0.15	1.65	EKHV3H1VSN241MQ25S	570		35 × 30	0.15	2.43	EKHV401VSN571MA30S	
	270	22 × 35	0.15	1.88	EKHV3H1VSN271MP35S	620		25.4 × 55	0.15	3.05	EKHV401VSN621MQ55S	
	310	25.4 × 30	0.15	1.92	EKHV3H1VSN311MQ30S	640		30 × 40	0.15	2.92	EKHV401VSN641MR40S	
	320	22 × 40	0.15	2.09	EKHV3H1VSN321MP40S	680		25.4 × 60	0.15	3.25	EKHV401VSN681MQ60S	
	370	30 × 25	0.15	2.08	EKHV3H1VSN371MR25S	700		35 × 35	0.15	2.73	EKHV401VSN701MA35S	
	380	22 × 45	0.15	2.33	EKHV3H1VSN381MP45S	740		30 × 45	0.15	3.22	EKHV401VSN741MR45S	
	380	25.4 × 35	0.15	2.22	EKHV3H1VSN381MQ35S	840	30 × 50	0.15	3.48	EKHV401VSN841MR50S		
	430	22 × 50	0.15	2.53	EKHV3H1VSN431MP50S	840	35 × 40	0.15	3.10	EKHV401VSN841MA40S		
	450	25.4 × 40	0.15	2.47	EKHV3H1VSN451MQ40S	940	30 × 55	0.15	3.76	EKHV401VSN941MR55S		
	470	30 × 30	0.15	2.37	EKHV3H1VSN471MR30S	980	35 × 45	0.15	3.43	EKHV401VSN981MA45S		
	470	35 × 25	0.15	2.17	EKHV3H1VSN471MA25S	1,040	30 × 60	0.15	4.03	EKHV401VSN1A2MR60S		
	480	22 × 55	0.15	2.72	EKHV3H1VSN481MP55S	1,110	35 × 50	0.15	3.73	EKHV401VSN112MA50S		
	520	25.4 × 45	0.15	2.70	EKHV3H1VSN521MQ45S	1,250	35 × 55	0.15	4.04	EKHV401VSN1C2MA55S		
	530	22 × 60	0.15	2.91	EKHV3H1VSN531MP60S	1,380	35 × 60	0.15	4.32	EKHV401VSN142MA60S		



◆ HIGHER RIPPLE CURRENT 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.	
350	350	30 × 25	0.15	2.50	EKHV351VSN351MR25S	375	840	30 × 50	0.15	4.31	EKHV3H1VSN841MR50S	
	460	30 × 30	0.15	2.90	EKHV351VSN461MR30S		870	35 × 40	0.15	4.17	EKHV3H1VSN871MA40S	
	480	35 × 25	0.15	2.90	EKHV351VSN481MA25S		940	30 × 55	0.15	4.65	EKHV3H1VSN941MR55S	
	570	30 × 35	0.15	3.31	EKHV351VSN571MR35S		1,010	35 × 45	0.15	4.61	EKHV3H1VSN102MA45S	
	630	35 × 30	0.15	3.38	EKHV351VSN631MA30S		1,050	30 × 60	0.15	5.01	EKHV3H1VSN1A2MR60S	
	680	30 × 40	0.15	3.72	EKHV351VSN681MR40S		1,150	35 × 50	0.15	5.03	EKHV3H1VSN1B2MA50S	
	780	35 × 35	0.15	3.82	EKHV351VSN781MA35S		1,290	35 × 55	0.15	5.43	EKHV3H1VSN132MA55S	
	790	30 × 45	0.15	4.11	EKHV351VSN791MR45S		1,430	35 × 60	0.15	5.83	EKHV3H1VSN1E2MA60S	
	900	30 × 50	0.15	4.46	EKHV351VSN901MR50S		400	300	30 × 25	0.15	2.32	EKHV401VSN301MR25S
	930	35 × 40	0.15	4.31	EKHV351VSN931MA40S			400	30 × 30	0.15	2.71	EKHV401VSN401MR30S
	1,010	30 × 55	0.15	4.82	EKHV351VSN102MR55S			410	35 × 25	0.15	2.68	EKHV401VSN411MA25S
	1,080	35 × 45	0.15	4.77	EKHV351VSN112MA45S			490	30 × 35	0.15	3.07	EKHV401VSN491MR35S
	1,120	30 × 60	0.15	5.17	EKHV351VSN112MR60S			540	35 × 30	0.15	3.13	EKHV401VSN541MA30S
	1,230	35 × 50	0.15	5.20	EKHV351VSN1C2MA50S			590	30 × 40	0.15	3.46	EKHV401VSN591MR40S
	1,390	35 × 55	0.15	5.64	EKHV351VSN142MA55S			670	35 × 35	0.15	3.54	EKHV401VSN671MA35S
1,540	35 × 60	0.15	6.05	EKHV351VSN1F2MA60S	680	30 × 45		0.15	3.81	EKHV401VSN681MR45S		
375	330	30 × 25	0.15	2.43	EKHV3H1VSN331MR25S	780		30 × 50	0.15	4.15	EKHV401VSN781MR50S	
	430	30 × 30	0.15	2.81	EKHV3H1VSN431MR30S	800		35 × 40	0.15	4.00	EKHV401VSN801MA40S	
	450	35 × 25	0.15	2.81	EKHV3H1VSN451MA25S	870		30 × 55	0.15	4.47	EKHV401VSN871MR55S	
	530	30 × 35	0.15	3.19	EKHV3H1VSN531MR35S	930		35 × 45	0.15	4.43	EKHV401VSN931MA45S	
	590	35 × 30	0.15	3.27	EKHV3H1VSN591MA30S	970		30 × 60	0.15	4.81	EKHV401VSN971MR60S	
	630	30 × 40	0.15	3.58	EKHV3H1VSN631MR40S	1,060		35 × 50	0.15	4.82	EKHV401VSN1A2MA50S	
	730	35 × 35	0.15	3.70	EKHV3H1VSN731MA35S	1,190		35 × 55	0.15	5.22	EKHV401VSN122MA55S	
	740	30 × 45	0.15	3.98	EKHV3H1VSN741MR45S	1,320	35 × 60	0.15	5.60	EKHV401VSN132MA60S		

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
350 to 450V _{dc}	0.70	1.00	1.10	1.17	1.25	1.31

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](#)

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[Available Terminals for Snap-in and Screw Mount Type](#)