

KHV Series

- 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

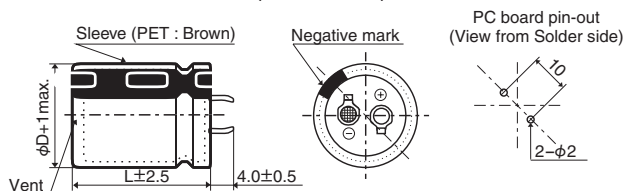


SPECIFICATIONS

Items	Characteristics		
Category	-40 to +105℃		
Temperature Range			
Rated Voltage Range	350 to 400V _{dc}		
Capacitance Tolerance	± 20% (M)		(at 20℃, 120Hz)
Leakage Current	I ≤ 3√CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃ after 5 minutes)		
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	350 to 400V	(at 20℃, 120Hz)
	tan δ (Max.)	0.15	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	350 to 400V	(at 120Hz)
	Z(-25℃)/Z(+20℃)	5	
	Z(-40℃)/Z(+20℃)	20	
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20℃ 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℃.		
	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℃ after exposing them for 1,000 hours at 105℃ 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	

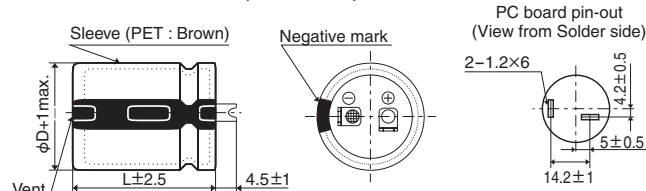
DIMENSIONS [mm]

● Terminal Code : VS (φ22 to φ35) : Standard

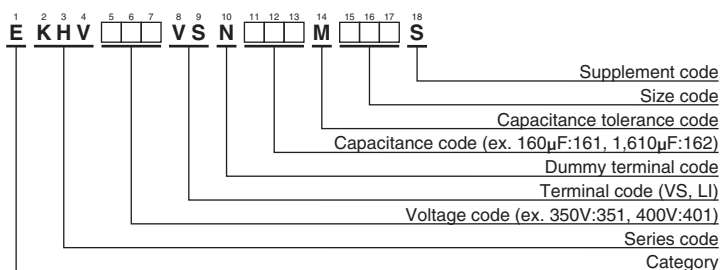


The standard design has no plastic disc.

● Terminal Code : LI (φ30, φ35)



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

**KHV** Series

◆ 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](#)