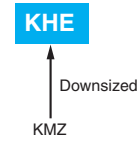


**KHE** *Upgrade!*  
Series

- Upgraded capacitance rating
- Endurance with ripple current : 2,000 hours at 105°C
- Rated voltage range : 400 to 450V<sub>dc</sub>, Capacitance range : 210 to 1,500μF
- Non solvent resistant type
- RoHS2 Compliant



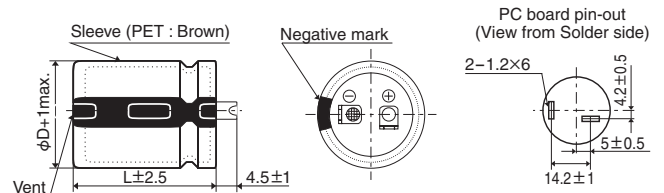
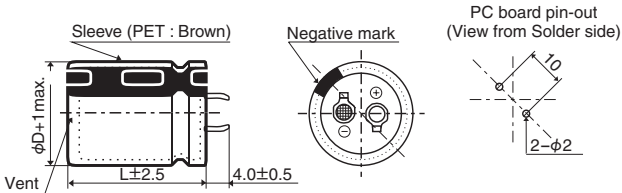
◆ SPECIFICATIONS

Items	Characteristics	
Category	-40 to +105°C	
Temperature Range		
Rated Voltage Range	400 to 450V <sub>dc</sub>	
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 <sub>dc</sub> )	400 to 450V
	tan δ (Max.)	0.20 (at 20°C, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	400 to 450V
	Z(-25°C)/Z(+20°C)	8 (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]

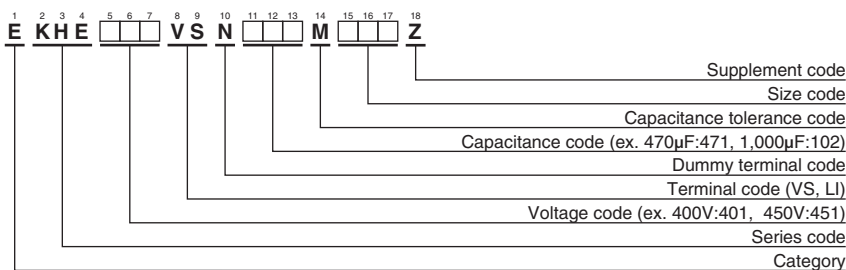
● Terminal Code : VS (φ25.4 to φ35) : Standard

● 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 <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	
400	240	25.4 × 25	0.20	1.17	EKHE401VSN241MQ25Z	420	670	30 × 40	0.20	2.15	EKHE421VSN671MR40Z	
	310	25.4 × 30	0.20	1.37	EKHE401VSN311MQ30Z		720	25.4 × 60	0.20	2.42	EKHE421VSN721MQ60Z	
	370	30 × 25	0.20	1.50	EKHE401VSN371MR25Z		730	35 × 35	0.20	2.00	EKHE421VSN731MA35Z	
	390	25.4 × 35	0.20	1.60	EKHE401VSN391MQ35Z		770	30 × 45	0.20	2.36	EKHE421VSN771MR45Z	
	460	25.4 × 40	0.20	1.77	EKHE401VSN461MQ40Z		870	35 × 40	0.20	2.26	EKHE421VSN871MA40Z	
	470	35 × 25	0.20	1.55	EKHE401VSN471MA25Z		880	30 × 50	0.20	2.57	EKHE421VSN881MR50Z	
	480	30 × 30	0.20	1.73	EKHE401VSN481MR30Z		980	30 × 55	0.20	2.76	EKHE421VSN981MR55Z	
	530	25.4 × 45	0.20	1.94	EKHE401VSN531MQ45Z		1,010	35 × 45	0.20	2.49	EKHE421VSN102MA45Z	
	590	30 × 35	0.20	1.96	EKHE401VSN591MR35Z		1,080	30 × 60	0.20	2.96	EKHE421VSN112MR60Z	
	600	25.4 × 50	0.20	2.10	EKHE401VSN601MQ50Z		1,150	35 × 50	0.20	2.71	EKHE421VSN112MA50Z	
	620	35 × 30	0.20	1.81	EKHE401VSN621MA30Z		1,290	35 × 55	0.20	2.90	EKHE421VSN132MA55Z	
	680	25.4 × 55	0.20	2.30	EKHE401VSN681MQ55Z		1,430	35 × 60	0.20	3.07	EKHE421VSN1E2MA60Z	
	700	30 × 40	0.20	2.20	EKHE401VSN701MR40Z		450	210	25.4 × 25	0.20	1.10	EKHE451VSN211MQ25Z
	750	25.4 × 60	0.20	2.47	EKHE401VSN751MQ60Z			270	25.4 × 30	0.20	1.28	EKHE451VSN271MQ30Z
	760	35 × 35	0.20	2.04	EKHE401VSN761MA35Z			320	30 × 25	0.20	1.39	EKHE451VSN321MR25Z
	810	30 × 45	0.20	2.42	EKHE401VSN811MR45Z			330	25.4 × 35	0.20	1.48	EKHE451VSN331MQ35Z
	910	35 × 40	0.20	2.31	EKHE401VSN911MA40Z			400	25.4 × 40	0.20	1.65	EKHE451VSN401MQ40Z
	930	30 × 50	0.20	2.64	EKHE401VSN931MR50Z			400	35 × 25	0.20	1.43	EKHE451VSN401MA25Z
	1,030	30 × 55	0.20	2.83	EKHE401VSN1A2MR55Z			410	30 × 30	0.20	1.59	EKHE451VSN411MR30Z
	1,060	35 × 45	0.20	2.55	EKHE401VSN1A2MA45Z			460	25.4 × 45	0.20	1.81	EKHE451VSN461MQ45Z
1,140	30 × 60	0.20	3.04	EKHE401VSN1B2MR60Z	510	30 × 35		0.20	1.82	EKHE451VSN511MR35Z		
1,210	35 × 50	0.20	2.78	EKHE401VSN122MA50Z	520	25.4 × 50		0.20	1.95	EKHE451VSN521MQ50Z		
1,350	35 × 55	0.20	2.97	EKHE401VSN1D2MA55Z	530	35 × 30		0.20	1.67	EKHE451VSN531MA30Z		
1,500	35 × 60	0.20	3.15	EKHE401VSN152MA60Z	580	25.4 × 55		0.20	2.13	EKHE451VSN581MQ55Z		
420	230	25.4 × 25	0.20	1.15	EKHE421VSN231MQ25Z	600		30 × 40	0.20	2.03	EKHE451VSN601MR40Z	
	300	25.4 × 30	0.20	1.35	EKHE421VSN301MQ30Z	640		25.4 × 60	0.20	2.28	EKHE451VSN641MQ60Z	
	350	30 × 25	0.20	1.46	EKHE421VSN351MR25Z	660		35 × 35	0.20	1.90	EKHE451VSN661MA35Z	
	370	25.4 × 35	0.20	1.56	EKHE421VSN371MQ35Z	690		30 × 45	0.20	2.23	EKHE451VSN691MR45Z	
	440	25.4 × 40	0.20	1.74	EKHE421VSN441MQ40Z	780		35 × 40	0.20	2.14	EKHE451VSN781MA40Z	
	440	35 × 25	0.20	1.51	EKHE421VSN441MA25Z	790		30 × 50	0.20	2.43	EKHE451VSN791MR50Z	
	460	30 × 30	0.20	1.68	EKHE421VSN461MR30Z	890		30 × 55	0.20	2.63	EKHE451VSN891MR55Z	
	510	25.4 × 45	0.20	1.90	EKHE421VSN511MQ45Z	910		35 × 45	0.20	2.36	EKHE451VSN911MA45Z	
	560	30 × 35	0.20	1.91	EKHE421VSN561MR35Z	1,000	30 × 60	0.20	2.83	EKHE451VSN102MR60Z		
	570	25.4 × 50	0.20	2.05	EKHE421VSN571MQ50Z	1,040	35 × 50	0.20	2.58	EKHE451VSN1A2MA50Z		
	580	35 × 30	0.20	1.75	EKHE421VSN581MA30Z	1,160	35 × 55	0.20	2.75	EKHE451VSN1B2MA55Z		
	640	25.4 × 55	0.20	2.23	EKHE421VSN641MQ55Z	1,290	35 × 60	0.20	2.92	EKHE451VSN132MA60Z		

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
Multipliers	0.77	1.00	1.10	1.21	1.32	1.33