

KHE Series

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

KHE

↓
Downsized
KMZ

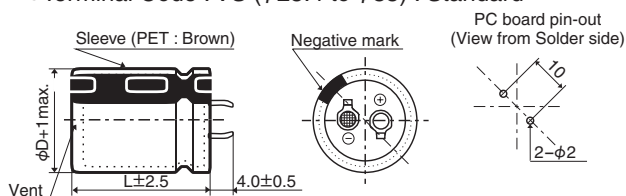


SPECIFICATIONS

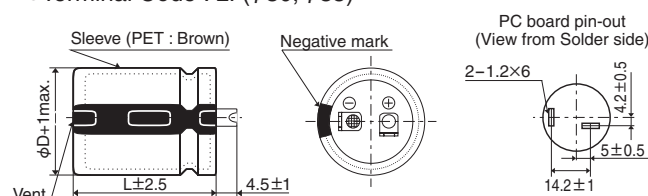
Items	Characteristics		
Category	-40 to +105℃		
Temperature Range			
Rated Voltage Range	400 to 450V _{dc}		
Capacitance Tolerance	± 20% (M) (at 20℃, 120Hz)		
Leakage Current	$I \leq 3\sqrt{CV}$ Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃ after 5 minutes)		
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	400 to 450V	(at 20℃, 120Hz)
	tan δ (Max.)	0.20	
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	400 to 450V	(at 120Hz)
	Z(-25℃)/Z(+20℃)	8	
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	$\leq \pm 20\%$ of the initial value	
	D.F. (tan δ)	$\leq 200\%$ of the initial specified value	
	Leakage current	$\leq$ The initial specified value	
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	$\leq \pm 15\%$ of the initial value	
	D.F. (tan δ)	$\leq 150\%$ of the initial specified value	
	Leakage current	$\leq$ The initial specified value	

DIMENSIONS [mm]

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

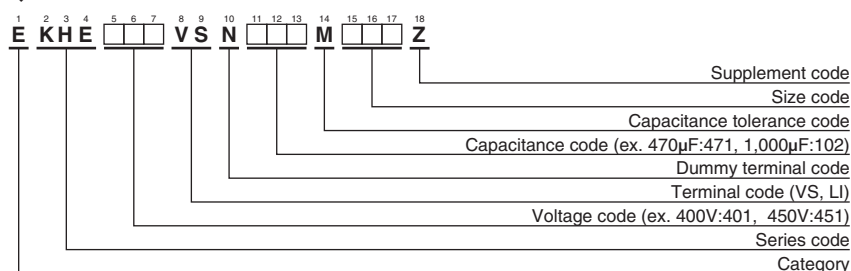


Terminal Code : LI (φ30, φ35)



The standard design has no plastic disc.

PART NUMBERING SYSTEM



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

◆STANDARD RATINGS

WV (V _{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	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	EKHE421VSN1B2MA50Z
	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 RIPLE 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

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.