

KHE Series

- Downsized from KMZ series
- Endurance with ripple current : 2,000 hours at 105°C
- Rated voltage range : 400 to 450V_{dc}, Capacitance range : 200 to 1,300μF
- Non solvent resistant type
- RoHS2 Compliant

KHE

↓
Downsized
KMZ

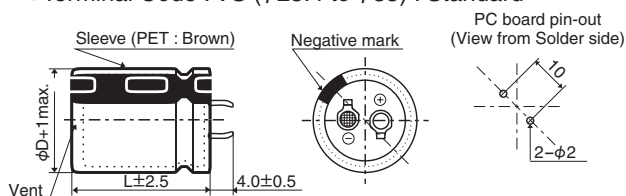


SPECIFICATIONS

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	

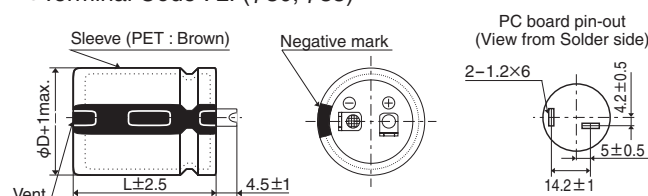
DIMENSIONS [mm]

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

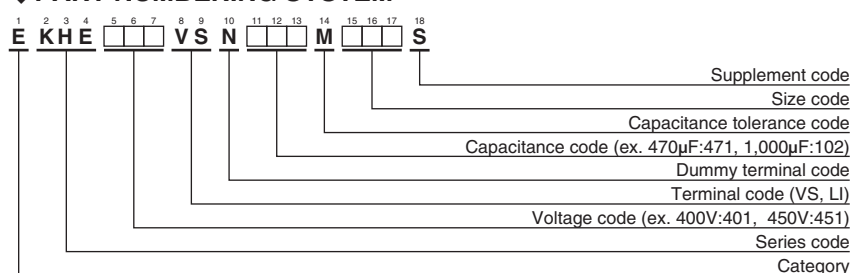


The standard design has no plastic disc.

- 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.
400	220	25.4 × 25	0.20	1.13	EKHE401VSN221MQ25S	420	620	30 × 40	0.20	2.06	EKHE421VSN621MR40S
	300	25.4 × 30	0.20	1.35	EKHE401VSN301MQ30S		680	25.4 × 60	0.20	2.35	EKHE421VSN681MQ60S
	330	30 × 25	0.20	1.41	EKHE401VSN331MR25S		680	30 × 45	0.20	2.21	EKHE421VSN681MR45S
	360	25.4 × 35	0.20	1.54	EKHE401VSN361MQ35S		680	35 × 35	0.20	1.95	EKHE421VSN681MA35S
	430	25.4 × 40	0.20	1.72	EKHE401VSN431MQ40S		820	30 × 50	0.20	2.47	EKHE421VSN821MR50S
	430	30 × 30	0.20	1.63	EKHE401VSN431MR30S		820	35 × 40	0.20	2.22	EKHE421VSN821MA40S
	430	35 × 25	0.20	1.51	EKHE401VSN431MA25S		910	30 × 55	0.20	2.65	EKHE421VSN911MR55S
	510	25.4 × 45	0.20	1.91	EKHE401VSN511MQ45S		910	35 × 45	0.20	2.40	EKHE421VSN911MA45S
	510	30 × 35	0.20	1.82	EKHE401VSN511MR35S		1,000	30 × 60	0.20	2.83	EKHE421VSN102MR60S
	560	25.4 × 50	0.20	2.03	EKHE401VSN561MQ50S		1,100	35 × 50	0.20	2.69	EKHE421VSN112MA50S
	560	35 × 30	0.20	1.75	EKHE401VSN561MA30S	450	1,200	35 × 55	0.20	2.86	EKHE421VSN122MA55S
	620	25.4 × 55	0.20	2.20	EKHE401VSN621MQ55S		1,300	35 × 60	0.20	3.03	EKHE421VSN132MA60S
	620	30 × 40	0.20	2.06	EKHE401VSN621MR40S		200	25.4 × 25	0.20	1.07	EKHE451VSN201MQ25S
	680	25.4 × 60	0.20	2.35	EKHE401VSN681MQ60S		240	25.4 × 30	0.20	1.21	EKHE451VSN241MQ30S
	680	30 × 45	0.20	2.21	EKHE401VSN681MR45S		270	30 × 25	0.20	1.28	EKHE451VSN271MR25S
	680	35 × 35	0.20	1.95	EKHE401VSN681MA35S		330	25.4 × 35	0.20	1.48	EKHE451VSN331MQ35S
	820	30 × 50	0.20	2.47	EKHE401VSN821MR50S		390	25.4 × 40	0.20	1.64	EKHE451VSN391MQ40S
	820	35 × 40	0.20	2.22	EKHE401VSN821MA40S		390	30 × 30	0.20	1.55	EKHE451VSN391MR30S
	910	30 × 55	0.20	2.65	EKHE401VSN911MR55S		390	35 × 25	0.20	1.43	EKHE451VSN391MA25S
	1,000	30 × 60	0.20	2.83	EKHE401VSN102MR60S		430	25.4 × 45	0.20	1.75	EKHE451VSN431MQ45S
420	1,000	35 × 45	0.20	2.51	EKHE401VSN102MA45S		470	25.4 × 50	0.20	1.86	EKHE451VSN471MQ50S
	1,100	35 × 50	0.20	2.69	EKHE401VSN112MA50S		470	30 × 35	0.20	1.74	EKHE451VSN471MR35S
	1,200	35 × 55	0.20	2.86	EKHE401VSN122MA55S		510	35 × 30	0.20	1.67	EKHE451VSN511MA30S
	1,300	35 × 60	0.20	3.03	EKHE401VSN132MA60S		560	25.4 × 55	0.20	2.09	EKHE451VSN561MQ55S
	220	25.4 × 25	0.20	1.13	EKHE421VSN221MQ25S		560	30 × 40	0.20	1.96	EKHE451VSN561MR40S
	270	25.4 × 30	0.20	1.28	EKHE421VSN271MQ30S		620	25.4 × 60	0.20	2.25	EKHE451VSN621MQ60S
	330	30 × 25	0.20	1.41	EKHE421VSN331MR25S		620	30 × 45	0.20	2.11	EKHE451VSN621MR45S
	360	25.4 × 35	0.20	1.54	EKHE421VSN361MQ35S		620	35 × 35	0.20	1.86	EKHE451VSN621MA35S
	390	25.4 × 40	0.20	1.64	EKHE421VSN391MQ40S		680	30 × 50	0.20	2.25	EKHE451VSN681MR50S
	390	30 × 30	0.20	1.55	EKHE421VSN391MR30S		750	35 × 40	0.20	2.13	EKHE451VSN751MA40S
	430	35 × 25	0.20	1.51	EKHE421VSN431MA25S		820	30 × 55	0.20	2.52	EKHE451VSN821MR55S
	470	25.4 × 45	0.20	1.83	EKHE421VSN471MQ45S		820	35 × 45	0.20	2.27	EKHE451VSN821MA45S
	510	30 × 35	0.20	1.82	EKHE421VSN511MR35S		910	30 × 60	0.20	2.70	EKHE451VSN911MR60S
	560	25.4 × 50	0.20	2.03	EKHE421VSN561MQ50S		1,000	35 × 50	0.20	2.56	EKHE451VSN102MA50S
	560	35 × 30	0.20	1.75	EKHE421VSN561MA30S		1,100	35 × 55	0.20	2.74	EKHE451VSN112MA55S
	620	25.4 × 55	0.20	2.20	EKHE421VSN621MQ55S		1,200	35 × 60	0.20	2.92	EKHE451VSN122MA60S

◆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

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.