

KHE Series

- Downsizing from KMZ series
- Endurance with ripple current : 2,000 hours at 105°C.
- Rated voltage range : 400 to 450V, Capacitance range : 200 to 1,500μF
- For inverter control, switching power supplies
- Non solvent resistant type
- RoHS2 Compliant

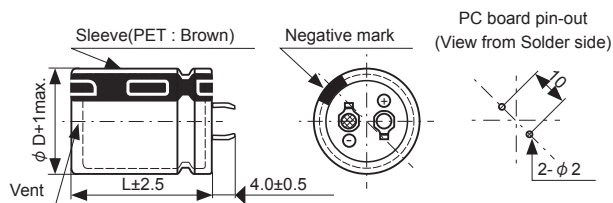


SPECIFICATION

Items	Characteristics	
Category		
Temperature Range	-25 to +105°C	
Rated Voltage Range	400 to 450V _{dc}	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	$I \leq 3\sqrt{CV}$ 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})	400 to 450V
	tanδ (Max.)	0.20 (at 20°C, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	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

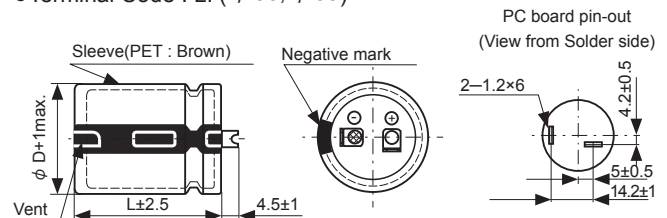
DIMENSIONS [mm]

Terminal Code : VS (φ 25.4 to φ 35) : Standard

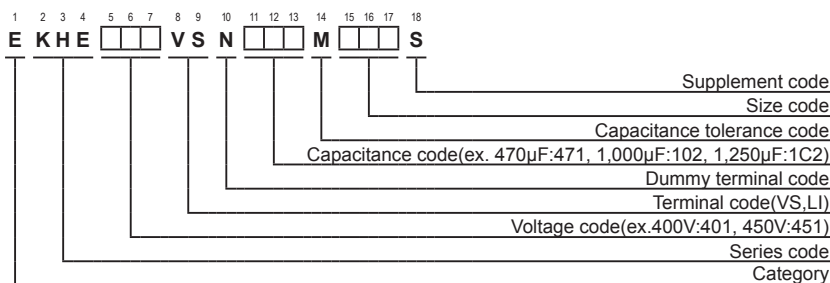


The standard design has no plastic disc.

Terminal Code : LI (φ 30, φ 35)



PART NUMBERING SYSTEM



Product specifications in this bulletin are subject to change without notice. Request our product specifications before purchase and/or use. Please use our products based on the information contained in this bulletin and product specifications. Please contact us for mass production schedule.

KHE Series

◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φ D×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φ D×L(mm)	tan δ	Rated ripple current (Arms/105°C, 120Hz)	Part No.	
400	250	25.4×25	0.20	1.20	EKHE401VSN251MQ25S	420	620	30×40	0.20	2.06	EKHE421VSN621MR40S	
	320	25.4×30	0.20	1.39	EKHE401VSN321MQ30S		690	25.4×60	0.20	2.37	EKHE421VSN691MQ60S	
	360	30×25	0.20	1.47	EKHE401VSN361MR25S		700	35×35	0.20	1.98	EKHE421VSN701MA35S	
	400	25.4×35	0.20	1.63	EKHE401VSN401MQ35S		710	30×45	0.20	2.26	EKHE421VSN711MR45S	
	470	25.4×40	0.20	1.80	EKHE401VSN471MQ40S		820	30×50	0.20	2.47	EKHE421VSN821MR50S	
	470	30×30	0.20	1.70	EKHE401VSN471MR30S		830	35×40	0.20	2.24	EKHE421VSN831MA40S	
	480	35×25	0.20	1.59	EKHE401VSN481MA25S		910	30×55	0.20	2.65	EKHE421VSN911MR55S	
	550	25.4×45	0.20	1.98	EKHE401VSN551MQ45S		970	35×45	0.20	2.47	EKHE421VSN971MA45S	
	580	30×35	0.20	1.94	EKHE401VSN581MR35S		1,000	30×60	0.20	2.83	EKHE421VSN102MR60S	
	620	25.4×50	0.20	2.14	EKHE401VSN621MQ50S		1,100	35×50	0.20	2.69	EKHE421VSN112MA50S	
	630	35×30	0.20	1.85	EKHE401VSN631MA30S		1,240	35×55	0.20	2.91	EKHE421VSN1C2MA55S	
	690	30×40	0.20	2.17	EKHE401VSN691MR40S		1,380	35×60	0.20	3.13	EKHE421VSN142MA60S	
	700	25.4×55	0.20	2.34	EKHE401VSN701MQ55S		450	200	25.4×25	0.20	1.07	EKHE451VSN201MQ25S
	770	25.4×60	0.20	2.50	EKHE401VSN771MQ60S			260	25.4×30	0.20	1.26	EKHE451VSN261MQ30S
	780	35×35	0.20	2.09	EKHE401VSN781MA35S			290	30×25	0.20	1.32	EKHE451VSN291MR25S
	800	30×45	0.20	2.40	EKHE401VSN801MR45S			330	25.4×35	0.20	1.48	EKHE451VSN331MQ35S
	910	30×50	0.20	2.60	EKHE401VSN911MR50S			390	25.4×40	0.20	1.64	EKHE451VSN391MQ40S
	930	35×40	0.20	2.37	EKHE401VSN931MA40S			390	30×30	0.20	1.55	EKHE451VSN391MR30S
	1,000	30×55	0.20	2.78	EKHE401VSN102MR55S			390	35×25	0.20	1.43	EKHE451VSN391MA25S
	1,080	35×45	0.20	2.61	EKHE401VSN112MA45S			440	25.4×45	0.20	1.77	EKHE451VSN441MQ45S
1,100	30×60	0.20	2.97	EKHE401VSN112MR60S	470	30×35		0.20	1.74	EKHE451VSN471MR35S		
1,200	35×50	0.20	2.81	EKHE401VSN122MA50S	500	25.4×50		0.20	1.92	EKHE451VSN501MQ50S		
1,390	35×55	0.20	3.08	EKHE401VSN142MA55S	510	35×30		0.20	1.67	EKHE451VSN511MA30S		
1,500	35×60	0.20	3.26	EKHE401VSN152MA60S	560	25.4×55		0.20	2.09	EKHE451VSN561MQ55S		
420	220	25.4×25	0.20	1.13	EKHE421VSN221MQ25S	560		30×40	0.20	1.96	EKHE451VSN561MR40S	
	290	25.4×30	0.20	1.33	EKHE421VSN291MQ30S	620		25.4×60	0.20	2.25	EKHE451VSN621MQ60S	
	330	30×25	0.20	1.41	EKHE421VSN331MR25S	630		35×35	0.20	1.88	EKHE451VSN631MA35S	
	360	25.4×35	0.20	1.54	EKHE421VSN361MQ35S	640		30×45	0.20	2.15	EKHE451VSN641MR45S	
	420	25.4×40	0.20	1.70	EKHE421VSN421MQ40S	740		30×50	0.20	2.35	EKHE451VSN741MR50S	
	420	30×30	0.20	1.61	EKHE421VSN421MR30S	750		35×40	0.20	2.13	EKHE451VSN751MA40S	
	430	35×25	0.20	1.51	EKHE421VSN431MA25S	820		30×55	0.20	2.52	EKHE451VSN821MR55S	
	490	25.4×45	0.20	1.87	EKHE421VSN491MQ45S	870		35×45	0.20	2.34	EKHE451VSN871MA45S	
	520	30×35	0.20	1.83	EKHE421VSN521MR35S	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	1,250	35×60	0.20	2.98	EKHE451VSN1C2MA60S		

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
400 to 450V _{dc}	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.