

# KHF Series

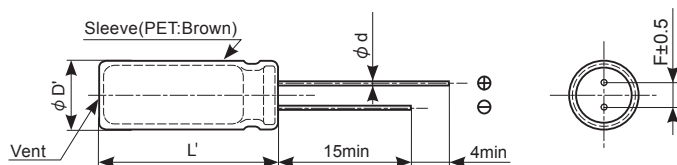
- Ideal for low profile power supply applications
- Downsizing, high ripple current design
- Rated voltage range : 400 to 450V<sub>dc</sub>, Nominal capacitance range : 100 to 150μF
- Endurance with ripple current : 2,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

## ◆ SPECIFICATIONS

Items	Characteristics		
Category	-40 to +105°C		
Temperature Range	-40 to +105°C		
Rated Voltage Range	400 to 450V <sub>dc</sub>		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current		After 1 minute	After 5 minutes
	CV ≤ 1,000	I=0.1CV + 40	I=0.02CV + 25
	CV > 1,000	I=0.04CV + 100	I=0.02CV + 25
	Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)		
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)	6	
	Z(-40°C) / Z(+20°C)	10 (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 the 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	≤ ±20% of the initial value	
	D.F. (tan δ)	≤ 200% of the initial specified value	
	Leakage current	≤ 500% of the initial specified value	

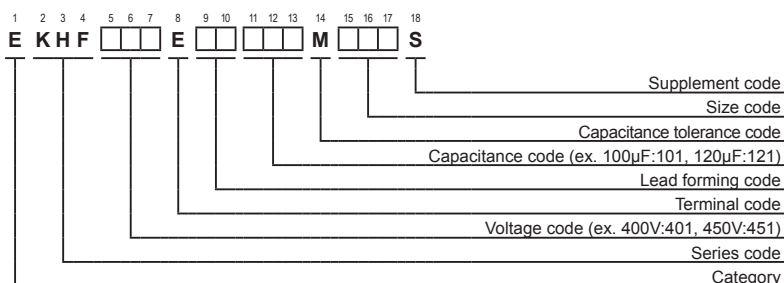
## ◆ DIMENSIONS [mm]

- Terminal Code : E



φ D	16	18
φ d	0.8	0.8
F	7.5	7.5
φ D'	φ D+0.5max.	
L'	L+2.0max.	

## ◆ 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.

# KHF Series

## ◆ STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap ( $\mu$ F)	Case size $\phi$ D×L(mm)	tan $\delta$	Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz)	Part No.
400	120	16×31.5	0.20	790	EKHF401E□□121MLN3S
	150	16×35	0.20	905	EKHF401E□□151ML35S
	150	18×31.5	0.20	915	EKHF401E□□151MMN3S
420	120	16×31.5	0.20	790	EKHF421E□□121MLN3S
	150	18×31.5	0.20	915	EKHF421E□□151MMN3S
450	100	16×31.5	0.20	720	EKHF451E□□101MLN3S
	120	16×35	0.20	810	EKHF451E□□121ML35S
	120	18×31.5	0.20	815	EKHF451E□□121MMN3S

□□ :Enter the appropriate lead forming code.

## ◆ RATED RIPPLE CURRENT MULTIPLIERS

### ● Frequency Multipliers

Capacitance ( $\mu$ F)	Frequency (Hz)			
	120	1k	10k	100k
100 to 150	1.00	1.30	1.40	1.50

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.

## ◆ STANDARD PACKAGING AND QUANTITY

Case size $\phi$ D×L(mm)	Tray (pcs / box) *	
	Long lead type (LL)	Cut type (C3, C5) / Formed lead type (MC, IJ)
16×31.5	-	500
16×35	400	-
18×31.5	200	500

\* The standard packing of the KHF series is tray. Please consult us about other packaging. Please consult us about other terminal forming.