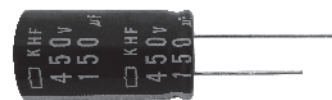
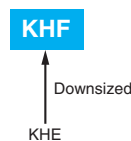


KHF Series

- Ideal for low profile power supply applications
- Downsize, high ripple design
- Rated voltage range : 400 to 450V_{dc}, Capacitance range : 33 to 150μF
- Endurance with ripple current : 3,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

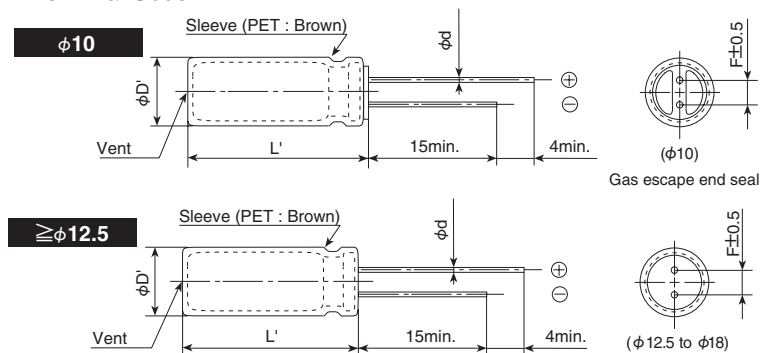


SPECIFICATIONS

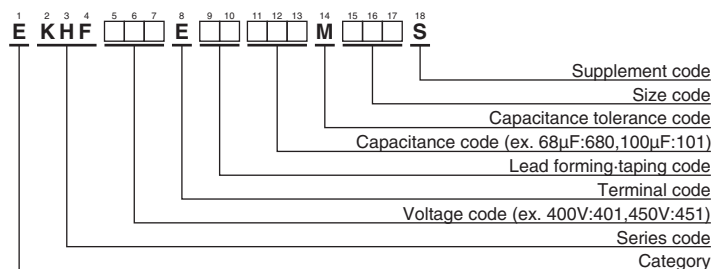
Items	Characteristics		
Category	-40 to +105℃		
Temperature Range			
Rated Voltage Range	400 to 450V _{dc}		
Capacitance Tolerance	± 20% (M) (at 20℃, 120Hz)		
Leakage Current		After 1 minute	After 5 minutes
	CV≤1,000	I=0.1CV+40	I=0.03CV+15
	CV>1,000	I=0.04CV+100	I=0.02CV+25
	Where, I : Max. leakage current(μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20℃)		
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℃)	6	
	Z(-40℃)/Z(+20℃)	10	
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 3,000 hours at 105℃.		
	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℃ 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	≤ ±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



PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mA _{rms} /105°C, 120Hz)	Part No.
400	39	10 × 30	0.20	365	EKHF401E□□390MJ30S
	47	10 × 35	0.20	425	EKHF401E□□470MJ35S
	56	10 × 40	0.20	485	EKHF401E□□560MJ40S
	68	10 × 45	0.20	555	EKHF401E□□680MJ45S
	68	12.5 × 30	0.20	530	EKHF401E□□680MK30S
	82	12.5 × 35	0.20	610	EKHF401E□□820MK35S
	100	12.5 × 40	0.20	705	EKHF401E□□101MK40S
	100	14.5 × 31.5	0.20	680	EKHF401E□□101MUN3S
	120	12.5 × 45	0.20	800	EKHF401E□□121MK45S
	120	14.5 × 35	0.20	765	EKHF401E□□121MU35S
	120	16 × 31.5	0.20	790	EKHF401E□□121MLN3S
	120	18 × 25	0.20	755	EKHF401E□□121MM25S
	150	14.5 × 45	0.20	905	EKHF401E□□151ML45S
	150	16 × 35	0.20	905	EKHF401E□□151ML35S
	150	18 × 31.5	0.20	915	EKHF401E□□151MMN3S
420	39	10 × 30	0.20	365	EKHF421E□□390MJ30S
	56	10 × 40	0.20	485	EKHF421E□□560MJ40S
	68	12.5 × 30	0.20	530	EKHF421E□□680MK30S
	82	12.5 × 35	0.20	610	EKHF421E□□820MK35S
	82	14.5 × 31.5	0.20	615	EKHF421E□□820MUN3S
	100	12.5 × 40	0.20	705	EKHF421E□□101MK40S
	100	14.5 × 35	0.20	700	EKHF421E□□101MU35S
	120	14.5 × 40	0.20	810	EKHF421E□□121MU40S
	120	16 × 31.5	0.20	790	EKHF421E□□121MLN3S
	120	18 × 25	0.20	755	EKHF421E□□121MM25S
	150	14.5 × 45	0.20	905	EKHF421E□□151MU45S
	150	18 × 31.5	0.20	915	EKHF421E□□151MMN3S
450	33	10 × 30	0.20	335	EKHF451E□□330MJ30S
	39	10 × 35	0.20	385	EKHF451E□□390MJ35S
	47	10 × 40	0.20	445	EKHF451E□□470MJ40S
	56	10 × 45	0.20	505	EKHF451E□□560MJ45S
	56	12.5 × 30	0.20	480	EKHF451E□□560MK30S
	68	12.5 × 35	0.20	560	EKHF451E□□680MK35S
	82	12.5 × 40	0.20	640	EKHF451E□□820MK40S
	82	14.5 × 31.5	0.20	615	EKHF451E□□820MUN3S
	100	12.5 × 45	0.20	730	EKHF451E□□101MK45S
	100	14.5 × 35	0.20	700	EKHF451E□□101MU35S
	100	16 × 31.5	0.20	720	EKHF451E□□101MLN3S
	100	18 × 25	0.20	690	EKHF451E□□101MM25S
	120	14.5 × 40	0.20	810	EKHF451E□□121MU40S
	120	16 × 35	0.20	810	EKHF451E□□121ML35S
	150	18 × 31.5	0.20	915	EKHF451E□□151MMN3S

□□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF)	Frequency(Hz)	120	1k	10k	100k
33 to 82		1.00	1.50	1.75	1.80
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.