KHE Series

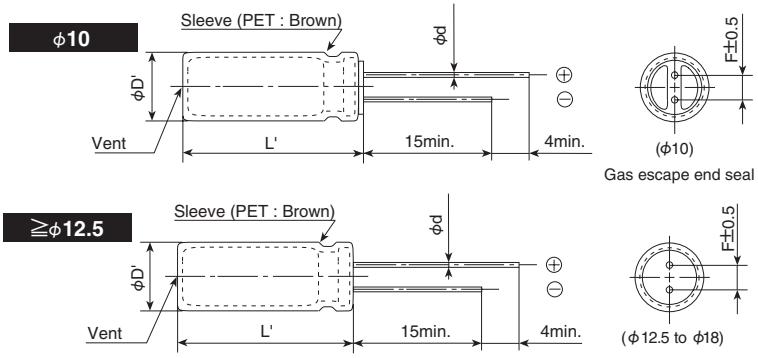
- Ideal for low profile power supply applications
- Downsize, high ripple design
- Rated voltage range : 400 to 450Vdc, Capacitance range : 27 to 120μF
- Endurance with ripple current : 2,000 hours at 105℃
- Non solvent resistant type
- RoHS2 Compliant

◆SPECIFICATIONS

Items	Characteristics				
Category Temperature Range	-40 to +105℃				
Rated Voltage Range	400 to 450Vdc				
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 (Vdc)	400V	420V	450V	
	tan δ (Max.)	0.15	0.20	0.20	(at 20℃, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (Vdc)	400V	420V	450V	
	Z(-25℃)/Z(+20℃)	5	6	6	
	Z(-40℃)/Z(+20℃)	6	—	—	(at 120Hz)
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	≦±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			

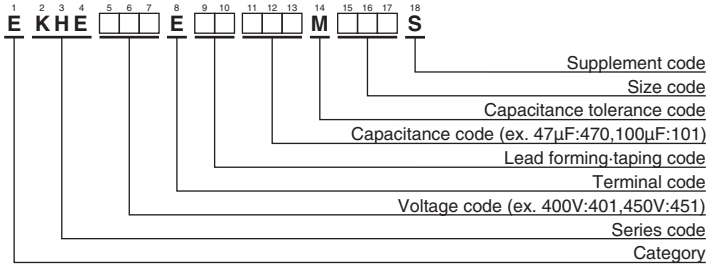
◆DIMENSIONS [mm]

●Terminal Code : E



φD	10	12.5	14.5	16	18
φd	0.6	0.6	0.8	0.8	0.8
F	5.0	5.0	7.5	7.5	7.5
φD'	φD+0.5 max.				
L'	L+2.0 max.				

◆PART NUMBERING SYSTEM



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

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KHE Series

◆STANDARD RATINGS

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
400	33	10×30	0.15	335	EKHE401E□□330MJ30S
	39	10×35	0.15	385	EKHE401E□□390MJ35S
	47	10×40	0.15	445	EKHE401E□□470MJ40S
	56	10×45	0.15	505	EKHE401E□□560MJ45S
	56	12.5×30	0.15	480	EKHE401E□□560MK30S
	68	12.5×35	0.15	560	EKHE401E□□680MK35S
	82	12.5×40	0.15	640	EKHE401E□□820MK40S
	82	14.5×31.5	0.15	625	EKHE401E□□820MUN3S
	100	12.5×45	0.15	730	EKHE401E□□101MK45S
	100	14.5×35	0.15	715	EKHE401E□□101MU35S
	100	16×31.5	0.15	720	EKHE401E□□101MLN3S
	120	14.5×40	0.15	810	EKHE401E□□121MU40S
	120	16×35	0.15	810	EKHE401E□□121ML35S
	120	18×31.5	0.15	815	EKHE401E□□121MMN3S
420	33	10×30	0.20	335	EKHE421E□□330MJ30S
	39	10×35	0.20	385	EKHE421E□□390MJ35S
	47	10×40	0.20	445	EKHE421E□□470MJ40S
	56	10×50	0.20	520	EKHE421E□□560MJ50S
	56	12.5×30	0.20	480	EKHE421E□□560MK30S
	68	12.5×35	0.20	560	EKHE421E□□680MK35S
	82	12.5×40	0.20	640	EKHE421E□□820MK40S
	82	14.5×31.5	0.20	625	EKHE421E□□820MUN3S
	100	12.5×50	0.20	750	EKHE421E□□101MK50S
	100	14.5×40	0.20	740	EKHE421E□□101MU40S
	100	16×31.5	0.20	720	EKHE421E□□101MLN3S
	120	14.5×45	0.20	835	EKHE421E□□121MU45S
	120	16×35	0.20	810	EKHE421E□□121ML35S
	120	18×31.5	0.20	815	EKHE421E□□121MMN3S

WV (V_{dc})	Cap (μF)	Case size φD×L(mm)	tan δ	Rated ripple current (mArms/ 105℃, 120Hz)	Part No.
450	27	10×30	0.20	305	EKHE451E□□270MJ30S
	33	10×35	0.20	355	EKHE451E□□330MJ35S
	39	10×40	0.20	405	EKHE451E□□390MJ40S
	47	10×45	0.20	460	EKHE451E□□470MJ45S
	47	12.5×30	0.20	440	EKHE451E□□470MK30S
	56	12.5×35	0.20	505	EKHE451E□□560MK35S
	68	12.5×40	0.20	580	EKHE451E□□680MK40S
	68	14.5×31.5	0.20	570	EKHE451E□□680MUN3S
	82	12.5×45	0.20	660	EKHE451E□□820MK45S
	82	14.5×35	0.20	650	EKHE451E□□820MU35S
	82	16×31.5	0.20	655	EKHE451E□□820MLN3S
	100	14.5×40	0.20	740	EKHE451E□□101MU40S
	100	16×35	0.20	740	EKHE451E□□101ML35S
	120	18×31.5	0.20	815	EKHE451E□□121MMN3S

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

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
27 to 82	1.00	1.50	1.75	1.80
100 to 120	1.00	1.30	1.40	1.50

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.

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■ Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.

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Part Numbering System
Part Numbering System (Appendix)
Standardization
Available Items by Manufacturing Locations
Environmental Measures
Technical Note
Precautions and Guidelines
Recommended Soldering Conditions
Taping, Lead-preforming and Packaging
Available Terminals for Snap-in and Screw Mount Type

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