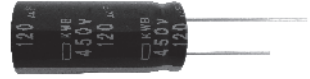


KWB *Upgrade!*
Series

- Ideal for low profile power supply applications
- Downsized form KWA series
- Rated voltage range : 400 to 450V_{dc}, Capacitance range : 33 to 150μF
- Endurance with ripple current : 5,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant



400V Upgrade!

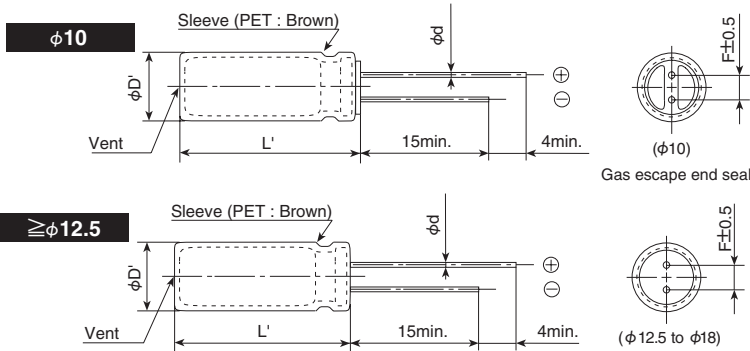


◆ SPECIFICATIONS

Items	Characteristics	
Category	-40 to +105°C	
Temperature Range		
Rated Voltage Range	400 to 450V _{dc}	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	I=0.04CV+100 (after 1 minute) I=0.02CV+25 (after 5 minutes) Where, I : Max. leakage current(μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)	
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	400 to 450V
	tan δ (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)	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 5,000 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

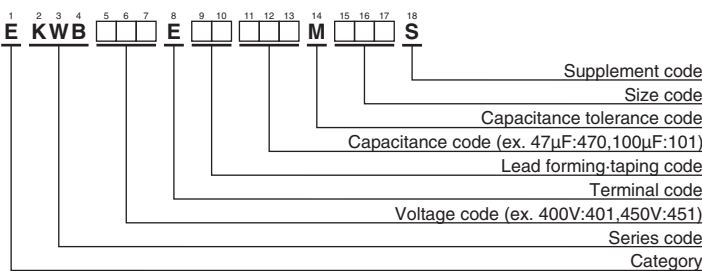
◆ DIMENSIONS [mm]

- Terminal Code : E



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)"

◆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	EKWB401E□□390MJ30S
	47	10 × 35	0.20	425	EKWB401E□□470MJ35S
	56	10 × 40	0.20	485	EKWB401E□□560MJ40S
	68	10 × 45	0.20	555	EKWB401E□□680MJ45S
	68	12.5 × 30	0.20	530	EKWB401E□□680MK30S
	82	12.5 × 35	0.20	610	EKWB401E□□820MK35S
	100	12.5 × 40	0.20	705	EKWB401E□□101MK40S
	100	14.5 × 31.5	0.20	680	EKWB401E□□101MUN3S
	120	14.5 × 35	0.20	765	EKWB401E□□121MU35S
	120	16 × 31.5	0.20	790	EKWB401E□□121MLN3S
	120	18 × 25	0.20	755	EKWB401E□□121MM25S
	150	16 × 35	0.20	905	EKWB401E□□151ML35S
	150	18 × 31.5	0.20	915	EKWB401E□□151MMN3S
420	39	10 × 30	0.20	365	EKWB421E□□390MJ30S
	56	10 × 40	0.20	485	EKWB421E□□560MJ40S
	68	12.5 × 30	0.20	530	EKWB421E□□680MK30S
	82	12.5 × 35	0.20	610	EKWB421E□□820MK35S
	82	14.5 × 31.5	0.20	615	EKWB421E□□820MUN3S
	100	14.5 × 35	0.20	700	EKWB421E□□101MU35S
	120	16 × 31.5	0.20	790	EKWB421E□□121MLN3S
	120	18 × 25	0.20	755	EKWB421E□□121MM25S
	150	18 × 31.5	0.20	915	EKWB421E□□151MMN3S
	450	33	10 × 30	0.20	335
39		10 × 35	0.20	385	EKWB451E□□390MJ35S
47		10 × 40	0.20	445	EKWB451E□□470MJ40S
56		10 × 45	0.20	505	EKWB451E□□560MJ45S
56		12.5 × 30	0.20	480	EKWB451E□□560MK30S
68		12.5 × 35	0.20	560	EKWB451E□□680MK35S
82		14.5 × 31.5	0.20	615	EKWB451E□□820MUN3S
100		14.5 × 35	0.20	700	EKWB451E□□101MU35S
100		16 × 31.5	0.20	720	EKWB451E□□101MLN3S
100		18 × 25	0.20	690	EKWB451E□□101MM25S
120		16 × 35	0.20	810	EKWB451E□□121ML35S
120		18 × 31.5	0.20	815	EKWB451E□□121MMN3S

□□ : 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.