

# KYB Series

- Low impedance, high ripple and long life from KYA series
- Newly innovative electrolyte is employed to minimize impedance
- Endurance with ripple current : 4,000 to 10,000 hours at 105°C
- Non solvent resistant type
- RoHS Compliant

**KYB**  
↑ Lower Z  
KYA P163



## ◆ SPECIFICATIONS

Items	Characteristics										
Category Temperature Range	-40 to +105°C										
Rated Voltage Range	6.3 to 100V <sub>dc</sub>										
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)										
Leakage Current	I=0.01CV or 3µA, whichever is greater. Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 2 minutes)										
Dissipation Factor (tan δ)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	
	tan δ (Max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.09	0.08	
	When nominal capacitance exceeds 1,000µF, add 0.02 to the value above for each 1,000µF increase. (at 20°C, 120Hz)										
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V <sub>dc</sub> )	6.3V	10V	16V	25V	35V	50V	63V	80V	100V	
	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2	2	
	Z(-40°C)/Z(+20°C)	8	6	4	3	3	3	3	3	3	
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 specified period of time at 105°C.										
	Rated Voltage(V <sub>dc</sub> )	6.3 to 10V <sub>dc</sub>					16 to 100V <sub>dc</sub>				
	Time	φ 5: 4,000hours φ 6.3 & 8: 6,000hours φ 10 to 18: 8,000hours					φ 5: 5,000hours φ 6.3 & 8: 7,000hours φ 10 to 18: 10,000hours				
	Capacitance change	≤ ±30% of the initial value					≤ ±25% of the initial value				
	D.F. (tan δ)	≤ 200% of the initial specified value					≤ 200% of the initial specified value				
	Leakage current	≤ The initial specified value					≤ The initial specified value				
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 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	≤ ±25% of the initial value									
	D.F. (tan δ)	≤ 200% of the initial specified value									
	Leakage current	≤ The initial specified value									

## ◆ DIMENSIONS [mm]

- Terminal Code : E



φD	5	6.3	8	10	12.5	16	18
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φD'	φD+0.5max.						
L'	L+1.5max.						

## ◆ PART NUMBERING SYSTEM



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



◆STANDARD RATINGS

WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.	WV (V <sub>dc</sub> )	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz)	Part No.		
			20°C	-10°C						20°C	-10°C				
50	180	8×20	0.075	0.30	980	EKYB500E□□181MH20D	80	56	8×15	0.14	0.56	585	EKYB800E□□560MH15D		
	220	10×16	0.069	0.28	1,100	EKYB500E□□221MJ16S		82	8×20	0.11	0.44	735	EKYB800E□□820MH20D		
	270	10×20	0.055	0.22	1,300	EKYB500E□□271MJ20S		82	10×12.5	0.14	0.56	624	EKYB800E□□820MJC5S		
	390	10×25	0.043	0.18	1,600	EKYB500E□□391MJ25S		120	10×16	0.10	0.40	780	EKYB800E□□121MJ16S		
	470	10×30	0.038	0.16	1,820	EKYB500E□□471MJ30S		180	10×20	0.075	0.30	1,040	EKYB800E□□181MJ20S		
	470	12.5×20	0.034	0.14	1,820	EKYB500E□□471MK20S		220	10×25	0.060	0.24	1,170	EKYB800E□□221MJ25S		
	680	12.5×25	0.030	0.12	2,100	EKYB500E□□681MK25S		270	10×30	0.053	0.22	1,350	EKYB800E□□271MJ30S		
	820	12.5×30	0.025	0.10	2,450	EKYB500E□□821MK30S		270	12.5×20	0.048	0.20	1,430	EKYB800E□□271MK20S		
	820	16×20	0.028	0.12	2,350	EKYB500E□□821ML20S		390	12.5×25	0.039	0.16	1,620	EKYB800E□□391MK25S		
	1,000	12.5×35	0.021	0.084	2,800	EKYB500E□□102MK35S		470	12.5×30	0.033	0.14	1,950	EKYB800E□□471MK30S		
	1,000	18×20	0.025	0.10	2,600	EKYB500E□□102MM20S		470	16×20	0.036	0.15	1,750	EKYB800E□□471ML20S		
	1,200	12.5×40	0.019	0.076	3,100	EKYB500E□□122MK40S		560	16×35	0.026	0.11	2,250	EKYB800E□□561MK35S		
	1,200	16×25	0.024	0.096	2,750	EKYB500E□□122ML25S		560	18×20	0.032	0.13	2,100	EKYB800E□□561MM20S		
	1,500	16×31.5	0.019	0.076	3,150	EKYB500E□□152MLN3S		680	12.5×40	0.024	0.096	2,450	EKYB800E□□681MK40S		
	1,500	18×25	0.021	0.084	2,890	EKYB500E□□152MM25S		680	16×25	0.028	0.12	2,250	EKYB800E□□681ML25S		
	1,800	16×35.5	0.016	0.064	3,550	EKYB500E□□182MLP1S		820	16×31.5	0.022	0.088	2,400	EKYB800E□□821MLN3S		
	2,200	16×40	0.014	0.056	3,900	EKYB500E□□222ML40S		820	18×25	0.027	0.11	2,270	EKYB800E□□821MM25S		
	2,200	18×31.5	0.014	0.056	3,800	EKYB500E□□222MMN3S		1,000	16×35.5	0.020	0.080	2,600	EKYB800E□□102MLP1S		
	2,700	18×35.5	0.013	0.052	4,100	EKYB500E□□272MMP1S		1,200	16×40	0.018	0.072	2,900	EKYB800E□□122ML40S		
	63	18	5×11	0.50	2.0	220		EKYB630E□□180ME11D	100	6.8	5×11	0.80	3.2	163	EKYB101E□□6R8ME11D
		33	6.3×11	0.25	1.0	350		EKYB630E□□330MF11D		15	6.3×11	0.43	1.8	267	EKYB101E□□150MF11D
56		8×11.5	0.16	0.64	530	EKYB630E□□560MHB5D	27	8×11.5		0.18	0.72	462	EKYB101E□□270MHB5D		
82		8×15	0.12	0.48	700	EKYB630E□□820MH15D	39	8×15		0.14	0.56	585	EKYB101E□□390MH15D		
120		8×20	0.085	0.34	880	EKYB630E□□121MH20S	56	8×20		0.11	0.44	735	EKYB101E□□560MH20D		
120		10×12.5	0.11	0.44	725	EKYB630E□□121MJC5S	56	10×12.5		0.14	0.56	624	EKYB101E□□560MJC5S		
180		10×16	0.073	0.30	1,050	EKYB630E□□181MJ16S	82	10×16		0.10	0.40	780	EKYB101E□□820MJ16S		
220		10×20	0.055	0.22	1,300	EKYB630E□□221MJ20S	100	10×20		0.075	0.30	1,040	EKYB101E□□101MJ20S		
330		10×25	0.045	0.18	1,550	EKYB630E□□331MJ25S	120	10×25		0.060	0.24	1,170	EKYB101E□□121MJ25S		
390		10×30	0.040	0.16	1,780	EKYB630E□□391MJ30S	150	10×30		0.053	0.22	1,350	EKYB101E□□151MJ30S		
390		12.5×20	0.036	0.15	1,780	EKYB630E□□391MK20S	180	12.5×20		0.048	0.20	1,430	EKYB101E□□181MK20S		
560		12.5×25	0.030	0.12	2,100	EKYB630E□□561MK25S	220	12.5×25		0.039	0.16	1,620	EKYB101E□□221MK25S		
680		12.5×30	0.026	0.11	2,415	EKYB630E□□681MK30S	270	12.5×30		0.033	0.14	1,950	EKYB101E□□271MK30S		
680		16×20	0.028	0.12	2,250	EKYB630E□□681ML20S	270	16×20		0.036	0.15	1,750	EKYB101E□□271ML20S		
820		12.5×35	0.022	0.088	2,700	EKYB630E□□821MK35S	330	16×25		0.028	0.12	2,250	EKYB101E□□331ML25S		
820		18×20	0.028	0.12	2,500	EKYB630E□□821MM20S	390	12.5×35		0.026	0.11	2,250	EKYB101E□□391MK35S		
1,000		12.5×40	0.020	0.080	3,000	EKYB630E□□102MK40S	390	18×20		0.032	0.13	2,100	EKYB101E□□391MM20S		
1,000		16×25	0.025	0.10	2,730	EKYB630E□□102ML25S	470	12.5×40		0.024	0.096	2,450	EKYB101E□□471MK40S		
1,200		16×31.5	0.020	0.080	3,000	EKYB630E□□122MLN3S	470	16×31.5		0.022	0.088	2,400	EKYB101E□□471MLN3S		
1,500		16×35.5	0.018	0.072	3,200	EKYB630E□□152MLP1S	560	16×35.5		0.020	0.080	2,600	EKYB101E□□561MLP1S		
1,500		18×31.5	0.018	0.072	3,300	EKYB630E□□152MMN3S	560	18×25		0.027	0.11	2,270	EKYB101E□□561MM25S		
1,800	16×40	0.016	0.064	3,590	EKYB630E□□182ML40S	680	16×40	0.018	0.072	2,900	EKYB101E□□681ML40S				
1,800	18×35.5	0.017	0.068	3,570	EKYB630E□□182MMP1S	680	18×31.5	0.020	0.080	2,550	EKYB101E□□681MMN3S				
2,200	18×40	0.016	0.064	3,670	EKYB630E□□222MM40S	820	18×35.5	0.018	0.072	3,050	EKYB101E□□821MMP1S				
80	12	5×11	0.80	3.2	163	EKYB800E□□120ME11D	1,000	1,000	18×40	0.017	0.068	3,510	EKYB101E□□102MM40S		
	22	6.3×11	0.43	1.8	267	EKYB800E□□220MF11D									
	39	8×11.5	0.18	0.72	462	EKYB800E□□390MHB5D									

□ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

Capacitance(μF)	Frequency(Hz)			
	120	1k	10k	100k
6.8 to 180	0.40	0.75	0.90	1.00
220 to 560	0.50	0.85	0.94	1.00
680 to 1,800	0.60	0.87	0.95	1.00
2,200 to 3,900	0.75	0.90	0.95	1.00
4,700 to	0.85	0.95	0.98	1.00

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.



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### Наши контакты:

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331