

KHU Series

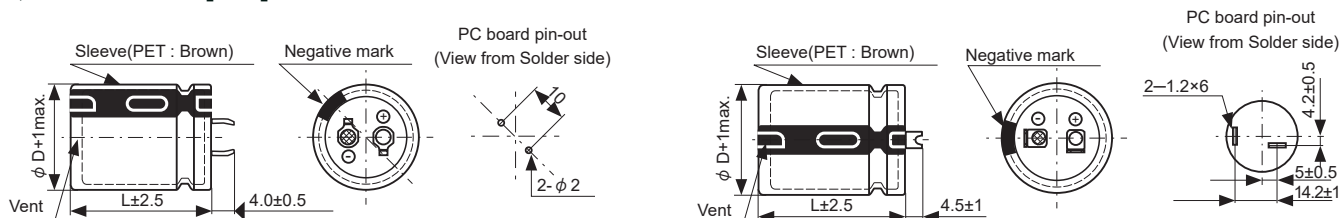
- Lineup of high-capacity products for server power supplies and solar power generation applications.
- Endurance with ripple current : 105°C 3,000 hours
- Rated voltage range : 400 to 500V
- Capacitance range : 120 to 2,180μF
- Non solvent resistant type
- RoHS2 Compliant

Long case(85 to 100L)
LineUP!

◆ SPECIFICATION

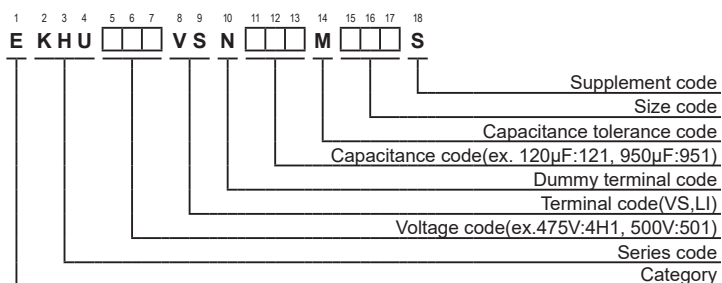
Items	Characteristics	
Category	-40 to +105°C	
Temperature Range		
Rated Voltage Range	400 to 500V _{dc}	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	$I \leq 3\sqrt{CV}$ Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 5 minutes)	
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	400 to 500V
	tan δ (Max.)	0.20 (at 20°C, 120Hz)
Low Temperature Characteristics (Max. Impedance Ratio)	Rated voltage (V _{dc})	400 to 500V
	Z(-25°C)/Z(+20°C)	8 (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 3,000 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	≤ ±15% of the initial value
	D.F. (tan δ)	≤ 150% of the initial specified value
	Leakage current	≤ The initial specified value

◆ DIMENSIONS[mm]



The standard design has no plastic disc.

◆ PART NUMBERING SYSTEM



KHU Series

◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φ D×L (mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φ D×L (mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.
400	240	25.4×25	0.20	1.17	EKHU401VSN241MQ25S	420	980	35×45	0.20	2.45	EKHU421VSN981MA45S
	310	25.4×30	0.20	1.37	EKHU401VSN311MQ30S		1,040	30×60	0.20	2.90	EKHU421VSN1A2MR60S
	360	30×25	0.20	1.48	EKHU401VSN361MR25S		1,100	30×65	0.20	3.04	EKHU421VSN112MR65S
	380	25.4×35	0.20	1.58	EKHU401VSN381MQ35S		1,120	35×50	0.20	2.68	EKHU421VSN112MA50S
	450	25.4×40	0.20	1.75	EKHU401VSN451MQ40S		1,180	30×70	0.20	3.20	EKHU421VSN122MR70S
	460	35×25	0.20	1.53	EKHU401VSN461MQ25S		1,250	30×75	0.20	3.35	EKHU421VSN1C2MR75S
	470	30×30	0.20	1.71	EKHU401VSN471MR30S		1,260	35×55	0.20	2.86	EKHU421VSN1C2MA55S
	520	25.4×45	0.20	1.92	EKHU401VSN521MQ45S		1,340	30×80	0.20	3.52	EKHU421VSN1D2MR80S
	580	30×35	0.20	1.94	EKHU401VSN581MR35S		1,400	35×60	0.20	3.04	EKHU421VSN142MA60S
	590	25.4×50	0.20	2.08	EKHU401VSN591MQ50S		1,420	35×65	0.20	3.12	EKHU421VSN1K2MA65S
	600	35×30	0.20	1.78	EKHU401VSN601MA30S		1,440	30×85	0.20	3.71	EKHU421VSN1E2MR85S
	660	25.4×55	0.20	2.24	EKHU401VSN661MQ55S		1,540	30×90	0.20	3.90	EKHU421VSN1F2MR90S
	680	30×40	0.20	2.16	EKHU401VSN681MR40S		1,550	35×70	0.20	3.32	EKHU421VSN1F2MA70S
	720	25.4×60	0.20	2.38	EKHU401VSN721MQ60S		1,610	30×95	0.20	4.04	EKHU421VSN1C2MR95S
	750	35×35	0.20	2.02	EKHU401VSN751MA35S		1,680	35×75	0.20	3.51	EKHU421VSN172MA75S
	790	30×45	0.20	2.39	EKHU401VSN791MR45S		1,700	30×100	0.20	4.21	EKHU421VSN172MRA0S
	890	35×40	0.20	2.28	EKHU401VSN891MA40S		1,810	35×80	0.20	3.71	EKHU421VSN182MA80S
	900	30×50	0.20	2.60	EKHU401VSN901MR50S		1,940	35×85	0.20	3.90	EKHU421VSN1K2MA85S
	1,010	30×55	0.20	2.80	EKHU401VSN102MR55S		2,070	35×90	0.20	4.09	EKHU421VSN2A2MA90S
	1,040	35×45	0.20	2.53	EKHU401VSN1A2MA45S	450	200	25.4×25	0.20	1.07	EKHU451VSN201MQ25S
	1,090	30×60	0.20	2.97	EKHU401VSN112MR60S		260	25.4×30	0.20	1.25	EKHU451VSN261MQ30S
	1,160	30×65	0.20	3.12	EKHU401VSN1B2MR65S		310	30×25	0.20	1.37	EKHU451VSN311MR25S
	1,180	35×50	0.20	2.75	EKHU401VSN122MA50S		320	25.4×35	0.20	1.45	EKHU451VSN321MQ35S
	1,240	30×70	0.20	3.28	EKHU401VSN1C2MR70S		390	25.4×40	0.20	1.63	EKHU451VSN391MQ40S
	1,310	30×75	0.20	3.43	EKHU401VSN132MR75S		390	35×25	0.20	1.41	EKHU451VSN391MA25S
	1,320	35×55	0.20	2.93	EKHU401VSN132MA55S		400	30×30	0.20	1.57	EKHU451VSN401MR30S
	1,410	30×80	0.20	3.61	EKHU401VSN142MR80S		450	25.4×45	0.20	1.79	EKHU451VSN451MQ45S
	1,470	35×60	0.20	3.11	EKHU401VSN1E2MA60S		490	30×35	0.20	1.78	EKHU451VSN491MR35S
	1,500	35×65	0.20	3.21	EKHU401VSN152MA65S		510	25.4×50	0.20	1.94	EKHU451VSN511MQ50S
	1,510	30×85	0.20	3.80	EKHU401VSN152MR85S		520	35×30	0.20	1.66	EKHU451VSN521MA30S
	1,610	30×90	0.20	3.98	EKHU401VSN162MR90S		570	25.4×55	0.20	2.08	EKHU451VSN571MQ55S
	1,630	35×70	0.20	3.40	EKHU401VSN1G2MA70S		590	30×40	0.20	2.02	EKHU451VSN591MR40S
	1,690	30×95	0.20	4.14	EKHU401VSN172MR95S		620	25.4×60	0.20	2.21	EKHU451VSN621MQ60S
	1,770	35×75	0.20	3.61	EKHU401VSN1H2MA75S		640	35×35	0.20	1.87	EKHU451VSN641MA35S
	1,790	30×100	0.20	4.32	EKHU401VSN182MRA0S		680	30×45	0.20	2.22	EKHU451VSN681MR45S
	1,910	35×80	0.20	3.81	EKHU401VSN192MA80S		770	30×50	0.20	2.40	EKHU451VSN771MR50S
	2,040	35×85	0.20	4.00	EKHU401VSN2A2MA85S		770	35×40	0.20	2.12	EKHU451VSN771MA40S
	2,180	35×90	0.20	4.20	EKHU401VSN222MA90S		860	30×55	0.20	2.59	EKHU451VSN861MR55S
420	220	25.4×25	0.20	1.12	EKHU421VSN221MQ25S		890	35×45	0.20	2.34	EKHU451VSN891MA45S
	290	25.4×30	0.20	1.32	EKHU421VSN291MQ30S		940	30×60	0.20	2.76	EKHU451VSN941MR60S
	340	30×25	0.20	1.44	EKHU421VSN341MR25S		1,010	30×65	0.20	2.91	EKHU451VSN102MR65S
	360	25.4×35	0.20	1.54	EKHU421VSN361MQ35S		1,020	35×50	0.20	2.56	EKHU451VSN102MA50S
	430	25.4×40	0.20	1.72	EKHU421VSN431MQ40S		1,080	30×70	0.20	3.06	EKHU451VSN112MR70S
	430	35×25	0.20	1.48	EKHU421VSN431MA25S		1,140	30×75	0.20	3.20	EKHU451VSN1B2MR75S
	440	30×30	0.20	1.65	EKHU421VSN441MR30S		1,140	35×55	0.20	2.72	EKHU451VSN1B2MA55S
	490	25.4×45	0.20	1.87	EKHU421VSN491MQ45S		1,230	30×80	0.20	3.38	EKHU451VSN1C2MR80S
	550	30×35	0.20	1.89	EKHU421VSN551MR35S		1,260	35×60	0.20	2.88	EKHU451VSN1C2MA60S
	560	25.4×50	0.20	2.03	EKHU421VSN561MQ50S		1,300	35×65	0.20	2.98	EKHU451VSN132MA65S
	570	35×30	0.20	1.74	EKHU421VSN571MA30S		1,310	30×85	0.20	3.54	EKHU451VSN132MR85S
	630	25.4×55	0.20	2.19	EKHU421VSN631MQ55S		1,400	30×90	0.20	3.71	EKHU451VSN142MR90S
	650	30×40	0.20	2.12	EKHU421VSN651MR40S		1,410	35×70	0.20	3.16	EKHU451VSN142MA70S
	680	25.4×60	0.20	2.31	EKHU421VSN681MQ60S		1,450	30×95	0.20	3.84	EKHU451VSN1E2MR95S
	710	35×35	0.20	1.97	EKHU421VSN711MA35S		1,530	35×75	0.20	3.35	EKHU451VSN1F2MA75S
	750	30×45	0.20	2.33	EKHU421VSN751MR45S		1,540	30×100	0.20	4.01	EKHU451VSN1F2MRA0S
	850	30×50	0.20	2.52	EKHU421VSN851MR50S		1,650	35×80	0.20	3.54	EKHU451VSN1G2MA80S
	850	35×40	0.20	2.23	EKHU421VSN851MA40S		1,770	35×85	0.20	3.73	EKHU451VSN1H2MA85S
	960	30×55	0.20	2.73	EKHU421VSN961MR55S		1,890	35×90	0.20	3.91	EKHU451VSN192MA90S

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◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φ D×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φ D×L(mm)	tan δ	Rated ripple current (Arms/ 105°C, 120Hz)	Part No.
475	160	25.4×25	0.20	1.07	EKHU4H1VSN161MQ25S	500	120	25.4×25	0.20	0.93	EKHU501VSN121MQ25S
	200	25.4×30	0.20	1.23	EKHU4H1VSN201MQ30S		170	25.4×30	0.20	1.13	EKHU501VSN171MQ30S
	240	30×25	0.20	1.38	EKHU4H1VSN241MR25S		190	30×25	0.20	1.23	EKHU501VSN191MR25S
	250	25.4×35	0.20	1.43	EKHU4H1VSN251MQ35S		210	25.4×35	0.20	1.31	EKHU501VSN211MQ35S
	280	35×25	0.20	1.48	EKHU4H1VSN281MA25S		250	25.4×40	0.20	1.46	EKHU501VSN251MQ40S
	300	25.4×40	0.20	1.60	EKHU4H1VSN301MQ40S		250	30×30	0.20	1.43	EKHU501VSN251MR30S
	310	30×30	0.20	1.59	EKHU4H1VSN311MR30S		260	35×25	0.20	1.43	EKHU501VSN261MA25S
	350	25.4×45	0.20	1.76	EKHU4H1VSN351MQ45S		300	25.4×45	0.20	1.63	EKHU501VSN301MQ45S
	380	30×35	0.20	1.80	EKHU4H1VSN381MR35S		320	30×35	0.20	1.65	EKHU501VSN321MR35S
	380	35×30	0.20	1.75	EKHU4H1VSN381MA30S		340	25.4×50	0.20	1.76	EKHU501VSN341MQ50S
	390	25.4×50	0.20	1.89	EKHU4H1VSN391MQ50S		340	35×30	0.20	1.66	EKHU501VSN341MA30S
	440	25.4×55	0.20	2.04	EKHU4H1VSN441MQ55S		380	25.4×55	0.20	1.89	EKHU501VSN381MQ55S
	450	30×40	0.20	2.01	EKHU4H1VSN451MR40S		380	30×40	0.20	1.85	EKHU501VSN381MR40S
	480	35×35	0.20	2.00	EKHU4H1VSN481MA35S		430	25.4×60	0.20	2.05	EKHU501VSN431MQ60S
	490	25.4×60	0.20	2.19	EKHU4H1VSN491MQ60S		430	35×35	0.20	1.89	EKHU501VSN431MA35S
	520	30×45	0.20	2.22	EKHU4H1VSN521MR45S		450	30×45	0.20	2.07	EKHU501VSN451MR45S
	570	35×40	0.20	2.26	EKHU4H1VSN571MA40S		510	30×50	0.20	2.24	EKHU501VSN511MR50S
	590	30×50	0.20	2.41	EKHU4H1VSN591MR50S		520	35×40	0.20	2.16	EKHU501VSN521MA40S
	660	30×55	0.20	2.59	EKHU4H1VSN661MR55S		580	30×55	0.20	2.43	EKHU501VSN581MR55S
	660	35×45	0.20	2.49	EKHU4H1VSN661MA45S		600	35×45	0.20	2.37	EKHU501VSN601MA45S
	730	30×60	0.20	2.78	EKHU4H1VSN731MR60S		640	30×60	0.20	2.60	EKHU501VSN641MR60S
	750	30×65	0.20	2.87	EKHU4H1VSN751MR65S		680	30×65	0.20	2.73	EKHU501VSN681MR65S
	760	35×50	0.20	2.72	EKHU4H1VSN761MA50S		690	35×50	0.20	2.59	EKHU501VSN691MA50S
	820	30×70	0.20	3.05	EKHU4H1VSN821MR70S		750	30×70	0.20	2.92	EKHU501VSN751MR70S
	860	35×55	0.20	2.96	EKHU4H1VSN861MA55S		780	35×55	0.20	2.82	EKHU501VSN781MA55S
	890	30×75	0.20	3.23	EKHU4H1VSN891MR75S		810	30×75	0.20	3.08	EKHU501VSN811MR75S
	950	35×60	0.20	3.16	EKHU4H1VSN951MA60S		860	35×60	0.20	3.01	EKHU501VSN861MA60S
	960	30×80	0.20	3.42	EKHU4H1VSN961MR80S		870	30×80	0.20	3.25	EKHU501VSN871MR80S
	970	30×85	0.20	3.49	EKHU4H1VSN971MR85S		890	30×85	0.20	3.34	EKHU501VSN891MR85S
	1,010	35×65	0.20	3.32	EKHU4H1VSN102MA65S		920	35×65	0.20	3.17	EKHU501VSN921MA65S
	1,030	30×90	0.20	3.65	EKHU4H1VSN1A2MR90S		950	30×90	0.20	3.50	EKHU501VSN951MR90S
	1,100	30×95	0.20	3.83	EKHU4H1VSN112MR95S		1,010	30×95	0.20	3.67	EKHU501VSN102MR95S
	1,110	35×70	0.20	3.54	EKHU4H1VSN112MA70S		1,010	35×70	0.20	3.38	EKHU501VSN102MA70S
	1,160	30×100	0.20	3.99	EKHU4H1VSN1B2MRA0S		1,070	30×100	0.20	3.83	EKHU501VSN1A2MRA0S
	1,200	35×75	0.20	3.75	EKHU4H1VSN122MA75S		1,090	35×75	0.20	3.58	EKHU501VSN112MA75S
	1,290	35×80	0.20	3.96	EKHU4H1VSN132MA80S		1,170	35×80	0.20	3.77	EKHU501VSN1B2MA80S
	1,300	35×85	0.20	4.04	EKHU4H1VSN132MA85S		1,190	35×85	0.20	3.87	EKHU501VSN122MA85S
	1,390	35×90	0.20	4.24	EKHU4H1VSN142MA90S		1,260	35×90	0.20	4.04	EKHU501VSN1C2MA90S
	1,480	35×95	0.20	4.45	EKHU4H1VSN152MA95S		1,350	35×95	0.20	4.25	EKHU501VSN1D2MA95S
	1,570	35×100	0.20	4.65	EKHU4H1VSN1F2MAA0S		1,420	35×100	0.20	4.42	EKHU501VSN142MAA0S

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency(Hz)	50	120	300	1k	10k	50k
400 to 450V _{dc}	0.77	1.00	1.10	1.21	1.32	1.33
475,500V _{dc}	0.77	1.00	1.11	1.20	1.25	1.33

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current.