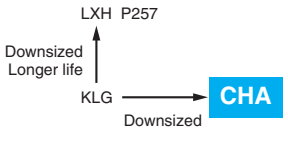
CHA Series

- Doesn't spark with DC over voltage
- Downsized from current KLG series
- Endurance with ripple current : 2,000 hours at 105℃
- Non solvent resistant type
- **RoHS Compliant**

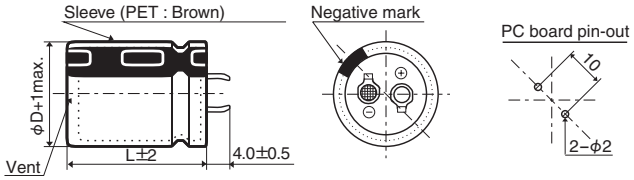


◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	−25 to +105℃
Rated Voltage Range	200 to 450Vdc
Capacitance Tolerance	±20% (M) (at 20℃, 120Hz)
Leakage Current	I≦3√CV Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (Vdc) (at 20℃ after 5 minutes)
Dissipation Factor (tanδ)	200Vdc : 0.15 max. (0.20 max. for φD=35mm) 400Vdc : 0.15 max. (at 20℃, 120Hz)
Low Temperature Characteristics (Max.Impedance Ratio)	Rated Voltage (Vdc) : 200 to 450V Z(-25℃) / Z(+20℃) : 4 (at 120Hz)
ESL	50nH max. (at 20℃, 1MHz)
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. (tanδ) : ≦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 : ≦±15% of the initial value D.F. (tanδ) : ≦150% of the initial specified value Leakage current : ≦The initial specified value

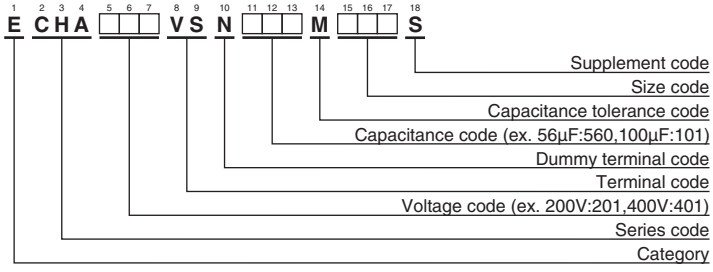
◆DIMENSIONS [mm]

●Terminal Code : VS (φ22 to φ35)



The standard design has no plastic disc.

◆PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

◆RATED RIPPLE CURRENT MULTIPLIERS

- Frequency Multipliers

Rated Voltage(Vdc) \ Frequency(Hz)	50	120	300	1k	10k	50k
200, 250	0.81	1.00	1.17	1.32	1.45	1.50
400, 450	0.77	1.00	1.16	1.30	1.41	1.43

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

CHA Series

◆STANDARD RATINGS

WV (Vdc)	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/ 105℃,120Hz)	Part No.
200	180	22×20	0.15	0.82	ECHA201VSN181MP20S
	220	22×20	0.15	0.90	ECHA201VSN221MP20S
	270	22×25	0.15	1.02	ECHA201VSN271MP25S
	330	22×30	0.15	1.20	ECHA201VSN331MP30S
	330	25.4×25	0.15	1.20	ECHA201VSN331MQ25S
	390	22×30	0.15	1.35	ECHA201VSN391MP30S
	390	25.4×25	0.15	1.35	ECHA201VSN391MQ25S
	470	22×35	0.15	1.45	ECHA201VSN471MP35S
	470	25.4×30	0.15	1.45	ECHA201VSN471MQ30S
	470	30×25	0.15	1.47	ECHA201VSN471MR25S
	560	22×40	0.15	1.62	ECHA201VSN561MP40S
	560	25.4×30	0.15	1.60	ECHA201VSN561MQ30S
	560	30×25	0.15	1.60	ECHA201VSN561MR25S
	680	25.4×35	0.15	1.82	ECHA201VSN681MQ35S
	680	30×30	0.15	1.81	ECHA201VSN681MR30S
	680	35×25	0.20	1.86	ECHA201VSN681MA25S
	820	25.4×45	0.15	2.11	ECHA201VSN821MQ45S
	820	30×35	0.15	2.11	ECHA201VSN821MR35S
	820	35×25	0.20	2.11	ECHA201VSN821MA25S
	1,000	30×35	0.15	2.40	ECHA201VSN102MR35S
	1,000	35×30	0.20	2.40	ECHA201VSN102MA30S
	1,200	30×45	0.15	2.69	ECHA201VSN122MR45S
	1,200	35×35	0.20	2.65	ECHA201VSN122MA35S
250	120	22×20	0.15	0.68	ECHA251VSN121MP20S
	180	22×25	0.15	0.87	ECHA251VSN181MP25S
	180	25.4×20	0.15	0.93	ECHA251VSN181MQ20S
	220	22×30	0.15	1.00	ECHA251VSN221MP30S
	270	22×35	0.15	1.14	ECHA251VSN271MP35S
	270	25.4×25	0.15	1.13	ECHA251VSN271MQ25S
	270	30×20	0.15	1.25	ECHA251VSN271MR20S
	330	22×40	0.15	1.28	ECHA251VSN331MP40S
	330	25.4×30	0.15	1.29	ECHA251VSN331MQ30S
	390	22×45	0.15	1.42	ECHA251VSN391MP45S
	390	25.4×35	0.15	1.46	ECHA251VSN391MQ35S
	390	30×25	0.15	1.52	ECHA251VSN391MR25S
	390	35×20	0.20	1.62	ECHA251VSN391MA20S
	470	25.4×40	0.15	1.64	ECHA251VSN471MQ40S
	470	30×30	0.15	1.67	ECHA251VSN471MR30S
	560	25.4×45	0.15	1.82	ECHA251VSN561MQ45S
	560	30×35	0.15	1.87	ECHA251VSN561MR35S
	560	35×25	0.20	1.99	ECHA251VSN561MA25S
250	680	30×40	0.15	2.12	ECHA251VSN681MR40S
	680	35×30	0.20	2.19	ECHA251VSN681MA30S
	820	30×45	0.15	2.39	ECHA251VSN821MR45S
	820	35×35	0.20	2.42	ECHA251VSN821MA35S
400	56	22×20	0.15	0.45	ECHA401VSN560MP20S
	68	22×20	0.15	0.51	ECHA401VSN680MP20S
	82	22×25	0.15	0.58	ECHA401VSN820MP25S
	100	22×25	0.15	0.66	ECHA401VSN101MP25S
	100	25.4×25	0.15	0.66	ECHA401VSN101MQ25S
	120	22×30	0.15	0.76	ECHA401VSN121MP30S
	120	25.4×25	0.15	0.76	ECHA401VSN121MQ25S
	150	22×35	0.15	0.85	ECHA401VSN151MP35S
	150	25.4×30	0.15	0.85	ECHA401VSN151MQ30S
	150	30×25	0.15	0.85	ECHA401VSN151MR25S
	180	22×40	0.15	0.94	ECHA401VSN181MP40S
	180	25.4×35	0.15	0.95	ECHA401VSN181MQ35S
	180	30×25	0.15	0.95	ECHA401VSN181MR25S
	220	25.4×35	0.15	1.24	ECHA401VSN221MQ35S
	220	30×30	0.15	1.24	ECHA401VSN221MR30S
	220	35×25	0.15	1.24	ECHA401VSN221MA25S
	270	25.4×45	0.15	1.30	ECHA401VSN271MQ45S
	270	30×35	0.15	1.30	ECHA401VSN271MR35S
	270	35×25	0.15	1.30	ECHA401VSN271MA25S
	330	30×35	0.15	1.45	ECHA401VSN331MR35S
	330	30×40	0.15	1.47	ECHA401VSN331MR40S
	330	35×30	0.15	1.47	ECHA401VSN331MA30S
450	82	25.4×25	0.20	0.61	ECHA451VSN820MQ25S
	120	25.4×30	0.20	0.76	ECHA451VSN121MQ30S
	120	30×25	0.20	0.77	ECHA451VSN121MR25S
	150	25.4×35	0.20	0.88	ECHA451VSN151MQ35S
	180	25.4×40	0.20	0.99	ECHA451VSN181MQ40S
	180	30×30	0.20	0.97	ECHA451VSN181MR30S
	180	30×35	0.20	1.00	ECHA451VSN181MR35S
	220	30×35	0.20	1.30	ECHA451VSN221MR35S
	220	35×25	0.20	1.20	ECHA451VSN221MA25S
	270	30×40	0.20	1.28	ECHA451VSN271MR40S
	270	35×30	0.20	1.30	ECHA451VSN271MA30S
	330	35×35	0.20	1.40	ECHA451VSN331MA35S
	390	35×40	0.20	1.60	ECHA451VSN391MA40S
	420	35×50	0.20	1.56	ECHA451VSN421MA50S

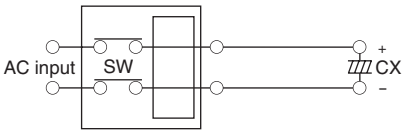
◆DC OVERVOLTAGE TEST CONDITIONS

The vent will operate and the capacitor shall become an open circuit without burning materials when the following test DC voltage is applied.

●Test DC voltage

Rated Voltage	Nominal Capacitance	Current Limit	Test Voltage
200Vdc	<330μF	4A	300/375Vdc
	330μF≦C<470μF	5A	
	≧470μF	7A	
250Vdc	<330μF	4A	350/450Vdc
	330μF≦C<470μF	5A	
	≧470μF	7A	
400Vdc	<100μF	2A	500/600Vdc
	100μF≦C<220μF	4A	
	≧220μF	7A	
450Vdc	<100μF	2A	550/675Vdc
	100μF≦C<220μF	4A	
	≧220μF	7A	

●Test Circuit



Constant DC voltage/current power supply