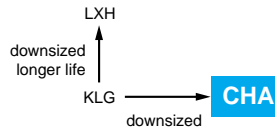


CHA Series

- No sparks against DC over-voltage
- Downsized from current KLG series
- Endurance with ripple current : 105°C, 2000hours
- Non solvent-proof type
- Pb-free design

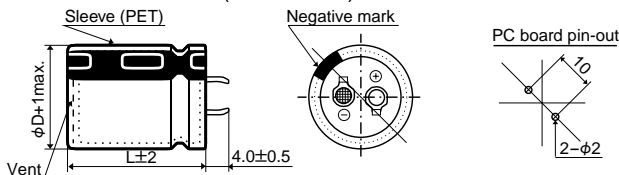


◆ SPECIFICATIONS

Items	Characteristics		
Category	-25 to +105°C		
Temperature Range			
Rated Voltage Range	200 & 400V _{dc}		
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)		
Leakage Current	I=3√CV Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V _{dc}) (at 20°C after 5 minutes)		
Dissipation Factor (tanδ)	200V _{dc} : 0.15 max. (0.20 max. for φD=35mm) 400V _{dc} : 0.15 max. (at 20°C, 120Hz)		
Low Temperature Characteristics (Max.Impedance Ratio)	Rated Voltage (V _{dc})	200V	400V
	Z(-25°C) / Z(+20°C)	4	4
	(at 120Hz)		
ESL	50nH max. (at 20°C, 1MHz)		
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 for 2000 hours at 105°C.		
	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°C after exposing them for 1000 hours at 105°C without voltage applied.		
	Capacitance change	≤±15% of the initial value	
	D.F. (tanδ)	≤150% of the initial specified value	
	Leakage current	≤The initial specified value	

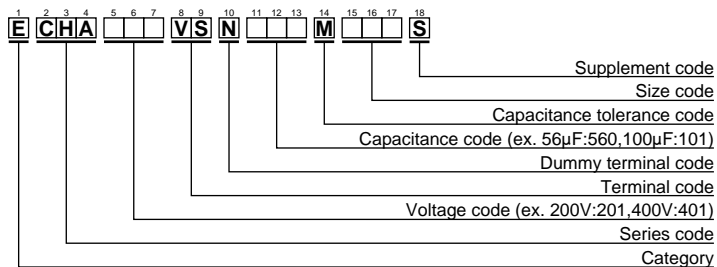
◆ DIMENSIONS [mm]

- Terminal Code : VS (φ22 to φ35)



No plastic disk is the standard design

◆ PART NUMBERING SYSTEM



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

◆ RATED RIPPLE CURRENT MULTIPLIERS

- Frequency Multipliers

Frequency (Hz)	50	120	300	1k	10k	50k
200 & 400V _{dc}	0.77	1.00	1.16	1.30	1.41	1.43

◆STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/105°C,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
	1000	30×35	0.15	2.40	ECHA201VSN102MR35S
1000	35×30	0.20	2.40	ECHA201VSN102MA30S	
1200	30×45	0.15	2.69	ECHA201VSN122MR45S	
1200	35×35	0.20	2.65	ECHA201VSN122MA35S	

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	tanδ	Rated ripple current (Arms/105°C,120Hz)	Part No.
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
	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	30×40	0.15	1.47	ECHA401VSN331MR40S
	330	35×30	0.15	1.47	ECHA401VSN331MA30S

◆DC OVERVOLTAGE TEST CONDITIONS

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

●Test DC voltage

Rated Voltage	Nominal Capacitance	Current Limit	Test Voltage
200V _{dc}	<330μF	4A	300/375V _{dc}
	330≤C<470μF	5A	
	≥470μF	7A	
400V _{dc}	<100μF	2A	500/600V _{dc}
	100≤C<220μF	4A	
	≥220μF	7A	

●Test Circuit

