

SHG Series

Aluminum Electrolytic Capacitors

Item Name	Rating	Case size	KNSCHA Lifetime
01EC1555	SHG450V100 μ F	$\Phi 18*36L$	10000 hours

1. Operating Temp. Range

$-25^{\circ}\text{C} \sim +105^{\circ}\text{C}$

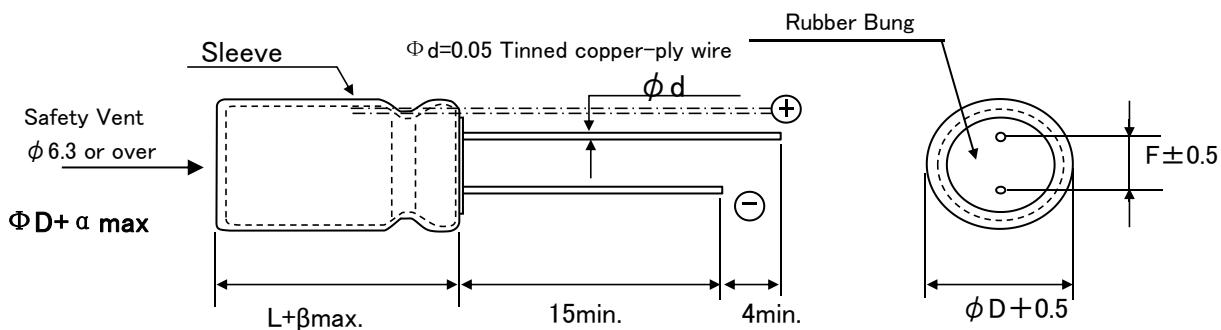
2. Electrical Characteristics

See Table 1.

【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (μ F)	Tolerance on Capacitance(%) 20°C 120Hz	Dissipation Factor (tan δ)max 20°C 120Hz	Leakage Current 5min. 20°C (μ A)max	Impedance(Ω) 100KHZ 20°C	Permissible Ripple Current (mAmps)max 105°C100KHz
450	500	100	-20~+20	0.24	925	2.5	2100

3. Dimensions



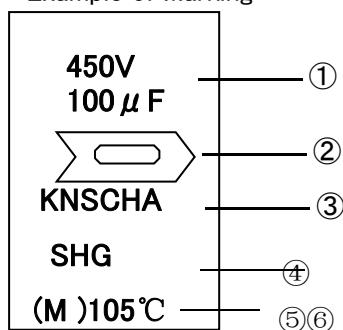
Unit(mm)

$\phi D+0.5\text{Max}$	$L+2\text{Max}$	$F\pm 0.5$	$d\pm 0.05$
18	36	7.5	0.8

4. Marking

Following items are printed with white color on coffee color sleeve

Example of Marking



- ① Rated voltage & Nominal Capacitance
- ② Polarity (negative)
- ③ Trade Mark
- ④ series
- ⑤ Symbol of Capacitance Tolerance (M)
- ⑥ Max Operating Temp.

5. MULTIPLIER FOR RIPPLE CURRENT

①. Frequency Coefficient

Freq.(Hz) Cap(μ F)	60 (50)	120	1K	10K	100K
0.1~47	0.75	0.80	0.85	0.90	1.00
68~680	0.80	0.85	0.90	0.95	1.00
1000~22000	0.85	0.87	0.89	0.92	1.00

②. Temperature Coefficient

Ambient Temperature($^{\circ}\text{C}$)	40	60	70	85	105
Coefficient	2.40	2.10	1.78	1.65	1.00

6. Characteristics

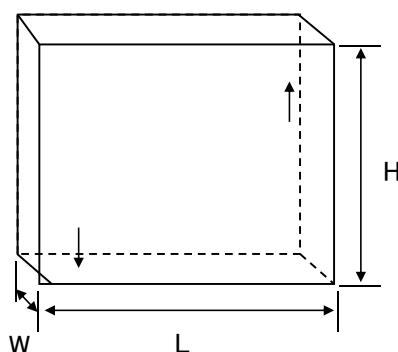
No.	Item	Performance		Test Method																																	
1	Leakage Current	$I = 925.0 \mu A$ ($I = 0.02CV + 25$) $I = \text{Max Leakage Current}$ $C = \text{Cstatic Capacitor}$; $V = \text{Rated Voltage}$		Protection Resistor : $1000 \pm 10 \Omega$ Applied Volt : Rated Voltage Measuring time : 5minutes																																	
2	Static Capacitance	$80 \sim 120 \mu F$		Measured Frequency : $120Hz \pm 20\%$ Measured Voltage $\leq 0.5V_{rms}$, $1.5 \sim 2.0V_{DC}$																																	
3	Dissipation Factor ($\tan\delta$)	0.24 and Under		Same as condition of Capacitors																																	
4	High Temp. Load Charac- teristics	<table border="1"> <tr> <td>Leakage Current</td> <td>\leq the value specified in Table 1</td> </tr> <tr> <td>Cap. Change</td> <td>$\leq \pm 20\%$ of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>$\leq 200\%$ of value specified in Table</td> </tr> <tr> <td>Appearance</td> <td>No remarkable abnormality</td> </tr> </table>	Leakage Current	\leq the value specified in Table 1	Cap. Change	$\leq \pm 20\%$ of initial value	Dissipation Factor	$\leq 200\%$ of value specified in Table	Appearance	No remarkable abnormality	Test Temp. : $105 \pm 2^\circ C$ Applied voltage: Rated voltage Test Time : 10,000 hours +72, -0 hours																										
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6-2. Characteristics

No.	Item	Performance		Test Method
10	Vibration Resistance	Capacitance	Stability required	
		Cap. Change	$\leq \pm 5\%$ of the initial specified value	
		Appearance	No remarkable abnormality	Frequency : 10~55Hz/1min. Width of vibration, 1.5mm Direction and duration X, Y and Z directions, each for 2 hours (Total 9 hours)
11	Solderability	3/4 area of surrounding directions of surface should be covered with new solder.		Solder: Sn-Ag, Sn-Cu Type Soldering Temp : $240 \pm 5^\circ\text{C}$ Dipping degree : 2~2.5mm Flux : Ethanol solution (JIS K8101) or Isopropylalchol (JIS K8839) solution of Rosin (JIS K5902)
12	Resistance to Soldering	Leakage Current	\leq Initial specified value	Soldering Temp. $280 \pm 5^\circ\text{C}$ Soldering Time . $10 \pm 1\text{sec.}$
		Cap. Change	$\leq \pm 10\%$ of initial value	
		Dissipation Factor	\leq Initial specified in value	
		Appearance	No remarkable abnormality	
13	Resistance to Humidity	Leakage Current	\leq Initial specified value	Test Temp. : $40 \pm 2^\circ\text{C}$ Humidity 90~95% Test Time : 500 ± 8 hours After the above condition, restored to normal temp, and then measured.
		Cap. Change	$\leq \pm 15\%$ of initial value	
		Dissipation Factor	\leq Initial spesified value	
		Appearance	No remarkable abnormality	
14	Perssure valve moment charact-erstics	There must not be thing ignition, scattering the resolution that that case works safely		Dcmethod: impress the reverse voltage and of 1A, I cancel an electric current.

7 Packing method

5-1 Packaging shape, size, quantity



Component size	Quantity per
18*36	1200pcs.

8 Related Standards JIS C 5141

9 Marking on packing box

- ① Item name
- ② Series name
- ③ Rated Voltage
- ④ Nominal Static Capacitance
- ⑤ Case size
- ⑥ Lot No.
- ⑦ Quantity

10 Soldeing

8-1 Soldering by soldering iron

Temperature of iron top : 270~350°C

Operating time : within 3 sec.

8-2 Flow soldering.

Preheat : PCB surface temperature 120°C±5°C

Solder Temp : 260°C±5°C

Solder Dipping Temp. : 2~4sec.

11 Cleaning of PC boad after soldering

Using follwing solvents is possible but make sure following condition

Solvent

IPA or Alcoholic agent like Pinealpha ST-100S, Cleanthrough 750H, 750L, 710M, 750K, or Technocare FRW-14~17

- ① Cleaning should be made by ultrasonic within 5min, at the temperature less then 60°C.
- ② Control of pollution is necessary (conductivity,pH, specific gravity, water volume)
- ③ Please do not keep near cleaning agent. Please do not store in air-tight container.
Please let it dry by hot air at the temperature less than maximum operating temp.

12 The situation of using

Please do not use a condenser in the next use environment.

① One circumference environment(weatherability) condition.

(a) Direct water,salt water and environment oil works or become a dew condensation state.

(b) Environment full of harmful gas (a hydrogen chloride, sulfurous acid, nitrous acid hydrochloric acid, ammonia).

(c) Ozone, infrared rays and the environment where radioactive rays are done collation of

② Vibration shock condition is extreme environment more than rule ranges of delivery specifications.

13 A country of origin

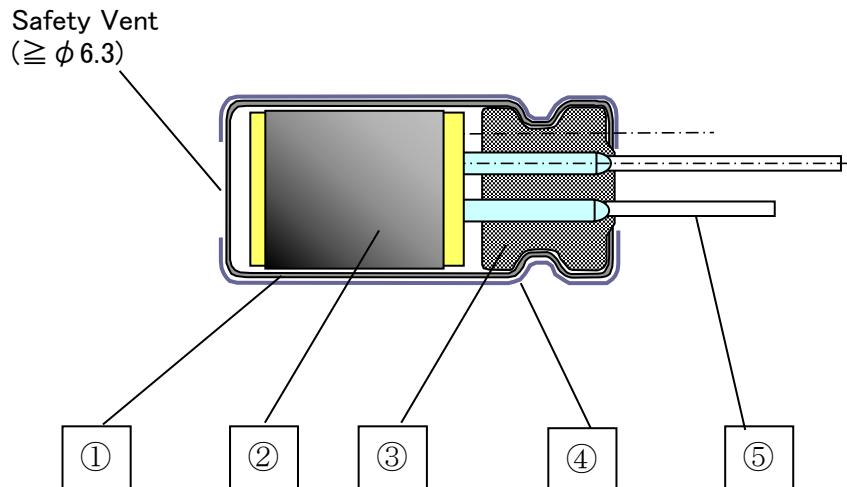
A country of origin of an KNSCHA SHG series alminum electrolysis condenser of specifications:
China

14 Effective life for storage

Storage conditions:

- ① Temperature range must be between 5~35°C
- ② Relative humidity must be less than 75%
- ③ Must be stored indoor
- ④ Must be free from water, oil or salt water
- ⑤ Must be free from toxic gasses (hydrogen sulfide, sulfurous acid, chlorine, ammonium, etc.)
- ⑥ Must be free from ozone, ultraviolet rays or any other radiation
- ⑦ Must be kept in capacitor original package

Aluminum Electrolytic Capacitor SHG Series Structure



No.	Name	Material
①	Case	Aluminum
②	Element (Electrode)	High Purity Aluminum foil
	(Separator)	Manila hemp pulp
	(Electrolyte)	---
③	Rubber Bung	Synthetic Rubber
④	Sleeve	PET
⑤	Lead Wire	Tin plated Steel Wire

Controls of ozone layer destructive chemical materials

Regulated materials : CFCs, Halon, Carbon Tetrachloride, 1,1,1-Trichloroethane

The products and parts do not include the above materials

The products and parts are not used the above materials on process.

The products and parts are not used PBBOs (Poly Bromo Bi-phenyl Oxides).

All materials are mentioned as existing chemical material in the "Law of examine and control of Production of Chemical Material"

The products are not listed in Appendix 1 of Export Trade Rule and Regulation

A condenser of this series supports RoHS regulation.

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[107CKR010M](#) [107CKH063MSA](#) [RJH-25V222MI9#](#) [RJH-35V221MG5#](#) [B43827A1106M8](#) [RJH-50V221MH6#](#) [EKYA500ELL470MF11D](#)
[B41022A5686M6](#) [ESRG250ELL101MH09D](#) [EKMA160EC3101MF07D](#) [RJB-10V471MG3#](#) [ESMG160ETD221MF11D](#)
[EKZH160ETD152MJ20S](#) [RJH-35V122MJ6#](#) [EGXF630ELL621ML20S](#) [RBD-25V100KE3#N](#) [EKMA350ELL100ME07D](#)
[ESMG160ETD101ME11D](#) [ELXY100ETD102MJ20S](#) [EGXF500ELL561ML15S](#) [EKMG350ETD471MJ16S](#) [35YXA330MEFC10X12.5](#)
[RXW471M1ESA-0815](#) [ELXZ630ELL221MJ25S](#) [ERR1HM1R0D11OT](#) [LPE681M30060FVA](#) [LPL471M22030FVA](#) [HFE221M25030FVA](#)
[LKMD1401H221MF](#) [B41888G6108M000](#) [EKMA160ETD470MF07D](#) [UHW1J102MHD6](#) [EKMG500ETD221MJC5S](#) [LKMK2502W101MF](#)
[LKMD1401H181MF](#) [LKMI2502G820MF](#) [LKMJ2001J122MF](#) [LKML2501C472MF](#) [LKMJ4002C681MF](#) [450MXH330MEFCSN25X45](#)
[450MXK330MA2RFC22X50](#) [63ZLH560MEFCG412.5X30](#) [ELH2DM331O25KT](#) [ELH2DM471P30KT](#)