

# KNSCHA<sup>®</sup>

全球 高端 电容器 制造商

# 东莞市科尼盛电子有限公司

DONGGUAN KNSCHA ELECTRONICS CO., LTD.

## 规格承认书

### Specification for approval

客户名称:

(Customer Name)

产品名称:

(Product Name)

客户料号:

(Customer part number)

科尼盛料号:

(KNSCHA number)

型号规格:

(Specifications)

铝电解电容

Aluminum Electrolytic Capacitor

SHA560UF400V01EC4381

SHA560UF400V01EC4381

KNSCHA SHA 400V560 $\mu$ F  $\Phi$ 35\*40L

KNSCHA SHA 400V560 $\mu$ F  $\Phi$ 35\*40L

制造  
(Manufacture)

Approval

拟制  
(Fiction)

审核  
(Chief)

核准  
(Approval)

刘淑芬



刘军军

徐贵南

客户  
(Customer)

Approval

检验  
(Inspect)

审核  
(Chief)

核准  
(Approval)

## 东莞市科尼盛电子有限公司

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# SHA Series

Item Name	Rating	Case size	KNSCHA LIFE
SHA560UF400V01EC4381	SHA400V560 $\mu$ F	$\Phi$ 35*40L	3000 hours

## 1. Operating Temp. Range

- 25°C ~ + 105°C

## 2. Electrical Characteristics

See Table 1.

【Table 1】

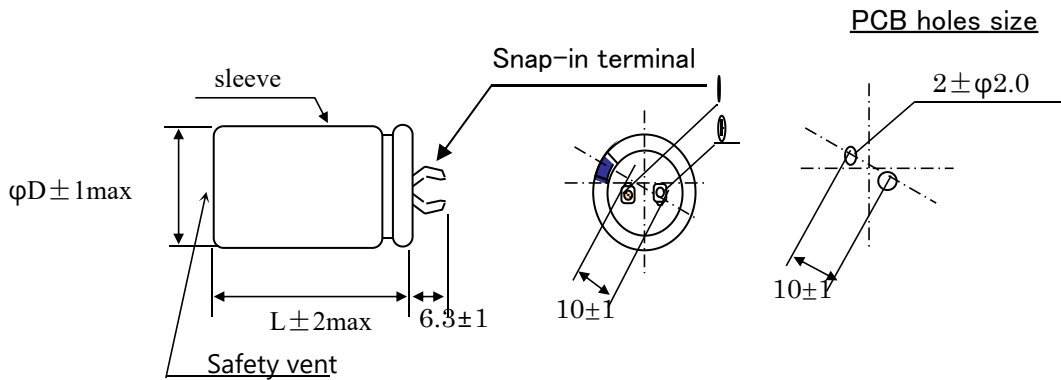
Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance ( $\mu$ F)	Tolerance on Capacitance (%) 20°C 120Hz	Dissipation Factor (tan $\delta$ ) max 20°C 120Hz	Leakage Current 5min. 20°C ( $\mu$ A)	Permissible Ripple Current (mA rms) 105°C 120Hz	Impedance ( $\Omega$ ) 100KHZ 20°C
400	500	560	-20 ~ +20	0.15	4,480	2,250	0.33

容量超过1000  $\mu$ F; 每超过1000  $\mu$ F, 损失角增加0.02

## 3. Shape and Dimensions

### SHA Series

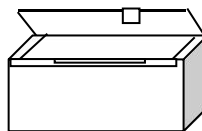
#### ◆ Shape and Dimensions



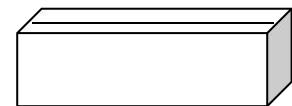
$\phi$ D	L
35	40

## 4. Packing shape

4-1 Inner Box



4-2 Outer box



4-3 Quantity per package

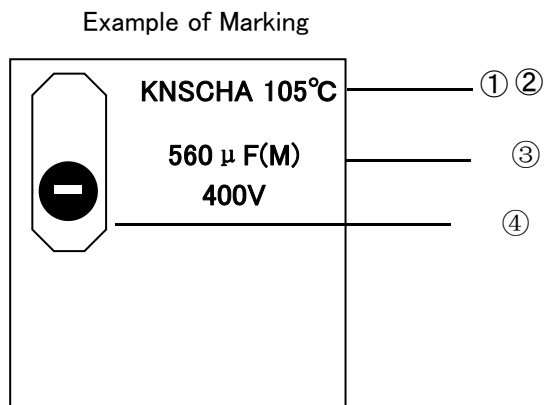
Unit (mm)

$\Phi$ D	L	Out box
35	40	448pcs

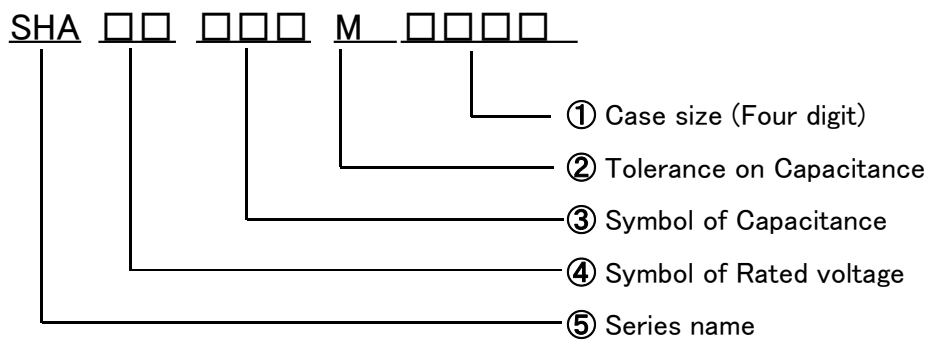
## 5. Marking

Following items are printed with white color on coffee color sleeve

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



## 6. Type numbering system



④

Volt.	Symbol
400	2W

③

Capacitance	Example
560	561

①

Case size (Four digit) Example

Case size	Symbol
Φ 35*40	3540

②

Tolerance on Capacitance

M	± 20%

7. Characteristics  
7-1.

No.	Item	Performance	Test Method			
1	Leakage Current	$I = 4,480 \mu A (I=0.02CV) \mu A$ Whichever is smaller (After 5min)	Protection Resistor : $1000 \pm 10 \Omega$ Applied Volt : Rated Voltage Measuring time : 5minutes			
2	Static Capacitance	- 20% ~ + 20%	Measured Frequency : $120 \text{Hz} \pm 20\%$ Measured Voltage $\leq 0.5 \text{Vrms}, 1.5 \sim 2.0 \text{VDC}$			
3	Dissipation Factor (tanδ)	0.15 and Under	Same as condition of Capacitors			
4	High Temp. Load Characteristics	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 rSHArkable abnormality			
			Test Temp. : $105 \pm 2^\circ \text{C}$ Applied voltage: Rated voltage Test Time : 3,000 hours +72, -0 hours			
5	High Temp. no load Characteristics	Leakage Current	$\leq$ the value specified in Table 1			
		Cap. Change	$\leq \pm 15\%$ of initial value			
		Dissipation Factor	$\leq 150\%$ of value specified in Table			
		Appearance	No rSHArkable abnormality			
			Test Temp. : $105 \pm 2^\circ \text{C}$ No voltage applied Test Time : 1,000 hours +24, -0 hurs			
6	Impedance Ratio	W V	400			
		Z-25°C/Z+20°C	8			
		Z-40°C/Z+20°C	12			
7	Temperature Characteristics	Stage	Item	Performance	Stage	Test Temp(°C)
		2	Impedance Ratio	less than the value mentioned in 4-5,	1	20±2
		4	Cap, Change	$\leq \pm 25\%$ against value in stage 3	2	-40±3;
		After the capacitor is held at temperature of each stage and reaches temperature stability, measure performance.			3	20±2
					4	105±2
					5	20±2
8	Surge Voltage	Item	PerforSHAnce			
		Leakage Current	$\leq$ the initial specified value			
		Cap, Change	$\leq \pm 15\%$ against value before test			
		Dissipation Factor	$\leq$ the initial specified value			
		Appearance	No rSHAkable abnormality			
		Test Temp. 15~35°C Test volt. Surge Volt.Specified in 2 Voltage apply. 1,000times of chage for 30±5sec, under frequency of 6±0.5sec, and discharge for 5min30sec.				

## 7-2.Characteristics

No.	Item	Performance		Test Method	
9	Vibration Resistance	Capacitance	Stability required	Frequency : 10~55Hz/1min. Width of vibration, 1.5mm Direction and duration X, Y and Z directions, each for 2 hours (Total 9 hours)	
		Cap. Change	≤±5% of the initial specified value		
		Appearance	No rSHArkable abnormality		
10	Solderbility	3/4 area of surrounding directions of surface should be covered with new solder.			Solder: Sn-Ag, Sn-Cu Type Soldering Temp : 240±5°C Dipping degree : 2~2.5mm Flux : Ethanol solution (JIS K8101) or Isopropylalcohol (JIS K8839) solution of Rosin (JIS K5902)
11	Resistance to Soldering	Leakage Current	≤ Initial specified value		Soldering Temp. 280±5°C
		Cap. Change	≤ ±10% of initial value		Soldering Time . 10±1sec.
		Dissipation Factor	≤ Initial specified in value		
		Appearance	No rSHArkable abnormality		
12	Resistance to Humidity	Leakage Current	≤ Initial specified value		Test Temp. : 40±2°C
		Cap. Change	≤ ±15% of initial value		Humidity 90~95%
		Dissipation Factor	≤ Initial spesified value	Test Time : 500 ± 8 hours	
		Appearance	No rSHArkable abnormality	After the above condition,restored to normal temp, and then measured.	
13	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.	

### 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

- 10-1 Soldering by soldering iron  
 Temperature of iron top : 270~350°C  
 Operating time : within 3 sec.
- 10-2 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 followingcondition

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 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