



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

152EC0566

KNSCHA ST-50 450V470 μ F 35*50L

制 造
(Manufacture)

Approval

拟 制
(Fiction)

审 核
(Chief)

核 准
(Approval)



张诗婕

刘淑芬

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

DONG GUAN KNSCHA ELECTRONICS CO.,LTD.

No. The 8th Floor, A3 Building, R&D Center (Phase I),

Songshan Lake Intelligent Valley, Liaobu Town, Dongguan City.

TEL:0769-83698067 81035570

FAX: 0769-83861559

Email : sales@knscha.com Website: <http://www.knscha.com>



ST-50 Series

Item Name	Rating	Case size	KNS LIFE
152EC0566	ST-50 450V470UF	Φ 35*50	5000 hours

1. Operating Temp. Range

- 40°C ~ + 105°C

2. Electrical Characteristics

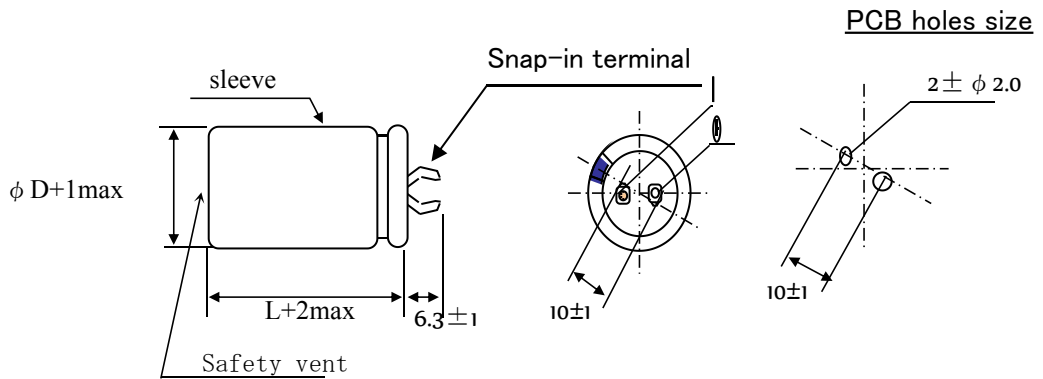
See Table 1.

【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (μF)	Tolerance on Capacitance (%) 20°C 120Hz	Dissipation Factor (tanδ)max 20°C 120Hz	Leakage Current 5min. 20°C (μA)	Permissible Ripple Current (mA rms) 105°C 120Hz
450	500	470	-20 ~ +20	0.20	1,379	1,980

3. Shape and Dimensions ST-50 Series

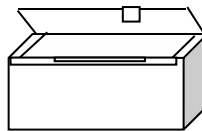
◆ Shape and Dimensions



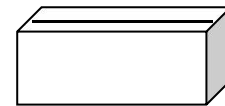
φ D	L
35	50

4. Packing shape

4-1 Inner Box



4-2 Outer box



4-3 Quantity per package

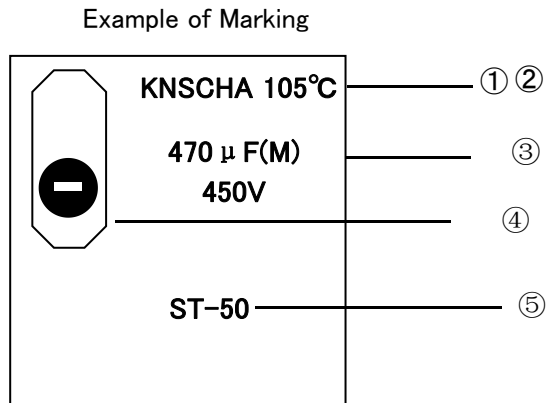
Unit (mm)

Φ D	L	Out box
35	50	240pcs

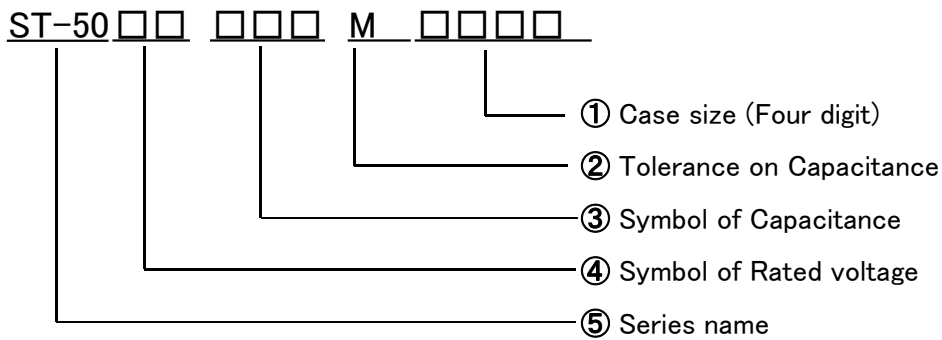
5. Marking

Following items are printed with gold color on black color sleeve

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



6. Type numbering system



④

Volt.	Symbol
450	2W

③

Capacitance	Example
470	471

①

Case size (Four digit) Example

Case size	Symbol
35*50	3550

②

Tolerance on Capacitance

M	±20%

7. Characteristics
7-1.

No.	Item	Performance	Test Method						
1	Leakage Current	$I = 1,379 \mu A$ Whichever is smaller (After 5min)	Protection Resistor : $1000 \pm 10 \Omega$ Applied Volt : Rated Voltage Measuring time : 5minutes						
2	Static Capacitance	$- 20\% \sim + 20\%$	Measured Frequency : $120Hz \pm 20\%$ Measured Voltage $\leq 0.5V_{rms}, 1.5 \sim 2.0V_{DC}$						
3	Dissipation Factor (tan δ)	0.20 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 remarkable abnormality						
			Test Temp. : $105 \pm 2^\circ C$ Applied voltage: Rated voltage Test Time : 5,000 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 remarkable abnormality						
			Test Temp. : $105 \pm 2^\circ C$ No voltage applied Test Time : 1,000 hours +24, -0 hours						
6	Impedance Ratio	<table border="1"> <thead> <tr> <th>W V</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>8</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>-</td> </tr> </tbody> </table>	W V	450	Z(-25°C)/Z(+20°C)	8	Z(-40°C)/Z(+20°C)	-	
W V	450								
Z(-25°C)/Z(+20°C)	8								
Z(-40°C)/Z(+20°C)	-								
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	-25±3;			
		After the capacitor is held at temperature of each stage and reaches temperature stability, measure performance.			3	-40±3;			
					4	20±2			
					5	105±2			
					6	20±2			
8	Surge Voltage	Item	Performance						
		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 remarkable 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
		Cap. Change	≤±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)			
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 Isopropylalchol (JIS K8839) solution of Rosin (JIS K5902)
11	Resistance to Soldering	Leakage Current	≤ Initial specified value
		Cap. Change	≤ ±10% of initial value
		Dissipation Factor	≤ Initial specified in value
		Appearance	No remarkable abnormality
			Soldering Temp. 260±5°C Soldering Time . 3~5sec. Printed wiring board:≥1.6mm
12	Resistance to Humidity	Leakage Current	≤ Initial specified value
		Cap. Change	≤ ±15% of initial value
		Dissipation Factor	≤ Initial spesified value
		Appearance	No remarkable abnormality
			Test Temp. : 40±2°C Humidity 90~95% Test Time : 500 ± 8 hours 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

- 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 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

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