

KT-03 Series

Item Name	Rating	Case size	KNSCHA
KT-03W6101M2222	KT-03 420V100UF	Φ 22*22	3000 hours

1. Operating Temp. Range

- 25°C ~ + 105°C

2. Electrical Characteristics

See Table 1.

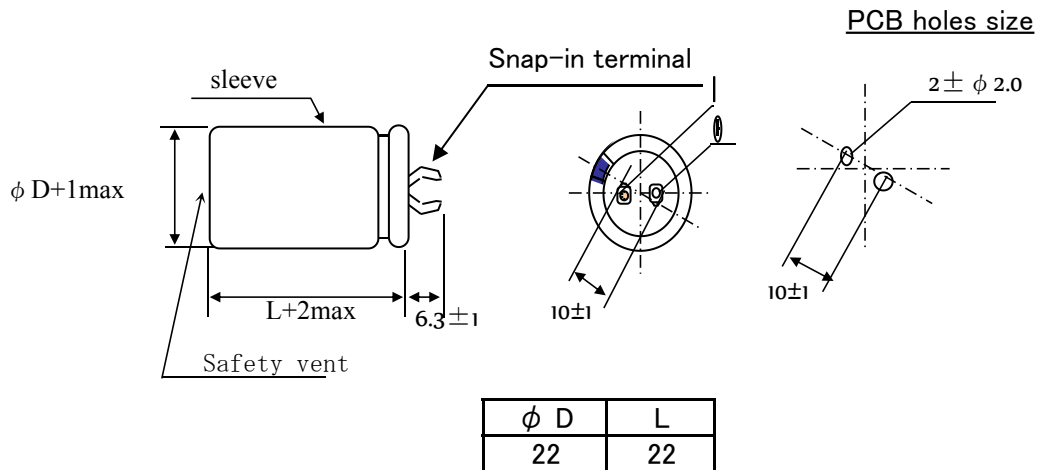
【Table 1】

Rated Voltage VDC	Surge Voltage VDC	Nominal Static Capacitance (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	Impedance (Ω) 100KHZ 20°C
420	470	100	-20 ~ +20	0.15	840	1,080	0.85

3. Shape and Dimensions

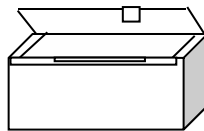
KT-03 Series

◆ Shape and Dimensions

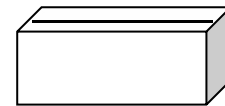


4. Packing shape

4-1 Inner Box



4-2 Outer box



4-3 Quantity per package

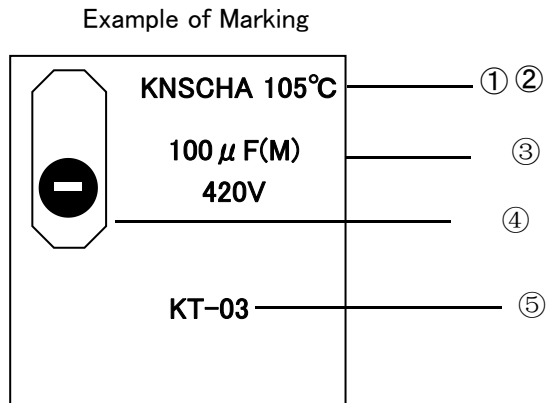
Unit (mm)

Φ D	L	Out box
22	22	576pcs

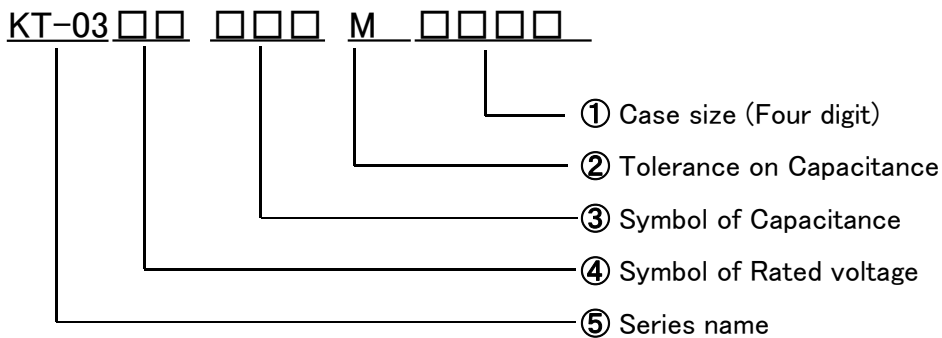
5. Marking

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)
- ⑤ series



6. Type numbering system



④

Volt.	Symbol
420	W6

③

Capacitance	Example
100	101

①

Case size (Four digit) Example

Case size	Symbol
22*22	2222

②

Tolerance on Capacitance

M	±20%

Example of numbering system.

#REF!

KT-03 series, 420V470 μ F, Tolerance on capacitance ±20%, case size 30Φ × 50L

7. Characteristics
7-1.

No.	Item	Performance	Test Method			
1	Leakage Current	$I = 840 \mu A$ 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 : $120 \text{Hz} \pm 20\%$ 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	$W V$	420			
		$Z(-25^\circ \text{C}) / Z(+20^\circ \text{C})$	8			
		$Z(-40^\circ \text{C}) / Z(+20^\circ \text{C})$	12			
7	Temperature Characteristics	Stage	Item	Performance	Stage	Test Temp($^\circ \text{C}$)
		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	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. $15 \sim 35^\circ \text{C}$ Test volt. Surge Volt. Specified in 2 Voltage apply. 1,000times of chage for $30 \pm 5 \text{sec}$, under frequency of $6 \pm 0.5 \text{sec}$, 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 rSHArkable 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 rSHArkable abnormality
12	Resistance to Humidity	Leakage Current	≤ Initial specified value
		Cap. Change	≤ ±15% of initial value
		Dissipation Factor	≤ Initial spesified value
		Appearance	No rSHArkable abnormality
13	Perssure valve moment charact-erstics	There must not be thing ignition, scattering the resolution that that case works safely	Test Temp. : 40±2°C Humidity 90~95% Test Time : 500 ± 8 hours After the above condition,restored to normal temp, and then measured. 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