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规 格 书

SPECIFICATION

☆料號

PART NO.: MPP684K630B

☆产品名称

PROD NAME: Polypropylene Film Capacitor

☆类别

TYPE: MPP

☆规格

DESCRIPTION: 0.68uF 10% 630VDC

☆日期

DATE: 2017-04-10

1. SPECIFIC REFERENCE DATA:

DESCRIPTION	VALUE
Capacitance	0.68uF
Capacitance Tolerance	K=±10%
Rated voltage (DC)	630VDC
Climatic catalogue	40/100/21
Rated temperature	100℃
Reference standard	IEC 384-16,GB10190
Dielectric	Polypropylene film
Coating	Epoxy resin coating
Leads	Radial leads of tinned wire
Voltage proof	1.6*UR (5 S at 20℃)
Dissipation factor (tangent of loss)	≤0.1% (at 20℃,1KHz)
Insulation resistance	C≤0.33uF IR≥30000MΩ C ＞0.33uF IR*C≥5000S (1 minute at 20℃ and RH≤65%)
Endurance	1000 hours with 125% of rated voltage at 85℃. (20℃ 1KHz)After the test: Δ C/C≤5%; Δ DF≤0.4%; IR≥50% of the specified value

2.CONSTRUCTION:

2.1 Dielectric material: polypropylene film;
2.2 Electrode material: vacuum evaporated aluminium layer;
2.3 Outer coating material: epoxy resin, fire retardant on request,
2.4 Terminal Material: solder-plated copper-clad wire;
2.5 Terminal contact: electrically welded;
2.6 Non-inductive wound.

3.EXPLANATION OF IMPORTANT TERMINOLOGY:

3.1 Rated capacitance

The rated capacitance value in Pico farads is expressed by a three digit number, the first two digits are significant figures and the last digit specifies the number of zero to follow.

Example: 224 indicated 220,000pF or 0.22uF

225 indicated 2,200,000pF or 2.2uF

3.2 Capacitance tolerance

The tolerance is the permissible actual capacitance relative to the rated capacitance and it is defined in percent. Symbol of tolerance shown:

F=±1%	G=±2%	J=±5%	K=±10%	M=±20%	N=±30%

3.3 Dissipation factor

Dissipation factor is a measure of the power loss in a capacitor in the case of sinusoidal voltage. It's defined as the ratio between the active power P and the reactive power Q: tg δ =P/Q. As it verify with temperature and frequency it is measured at 20 ℃ and 1kHz as the standard of measure condition.

3.4 Insulation resistance

Insulation resistance is a measure of the capacitors ability to retain an electrical change for an extended period of time. It is the ratio between an applied direct voltage and the current, which flows through the capacitor. The current is measured 60s after the voltage has been applied. Ambient temperature. T=20℃ and RH≤65%. The insulation resistance is normally expressed in megohm for low capacitance capacitors and as a time constant stated in megohm-microfarads (The product of the IR measured is megohm and the capacitance measured in microfarad) for the higher capacitance value capacitor.

3.5 Self-healing

A break-though in a plastic film/foil capacitor leads to a permanent short circuit of the capacitor due to the carbon bridge, which is built up in the break-down channel due to the high temperature rise and carbon content of the dielectric.

A metallized capacitor can withstand a break-through without a permanent short circuit on account of its self-healing ability. At a weak point in the dielectric, or because of a transient, a break-down may occur. The thin metal layer around the weak point is evaporated and the weak point is isolated. The capacitor has self-healed

.

4. ELECTRICAL TESTING METHODS:

4.1 Capacitance:

Testing frequency: 1kHz±100Hz; Testing voltage: 1-5vms;

4.2 Dissipation factor: same as 4.1,DF shall be less than 0.1%

4.3 Voltage proof at 20℃

Tested at 1.6*UR for 5 seconds.

4.4 Insulation resistance (IR) at 20℃

IR shall be measured at rated voltage or less than 100VDC with a charging time of 60 seconds, and at 20℃.The result shall be met the requirement 1.

5. MECHANICAL TESTING METHODS:

5.1 Lead tensile strength:

With stands 2.2 LBS of steady pull applied radially to the lead wire for 5 sec.

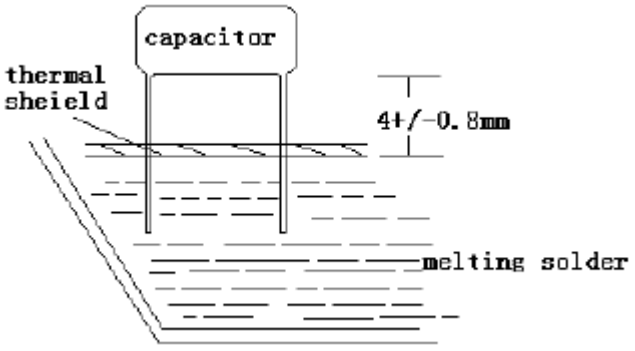
5.2 Lead bending strength:

1.1 LBS. load is applied to the leads. The body of capacitor is bent 90 degrees and returned to its original position. After the test no lossing or breaking of the terminal should be found.

5.3 Solder ability:

The lead wire is immersed up to "0.155+0.030"from the root of the terminal into the solder bath at 230±5° for2±0.5 sec. Solder should cover at least 75% of the circumference of the lead.

The dipping speed into, and raising speed from the molten solder shall be 25±6 mm/sec.(shown in below):

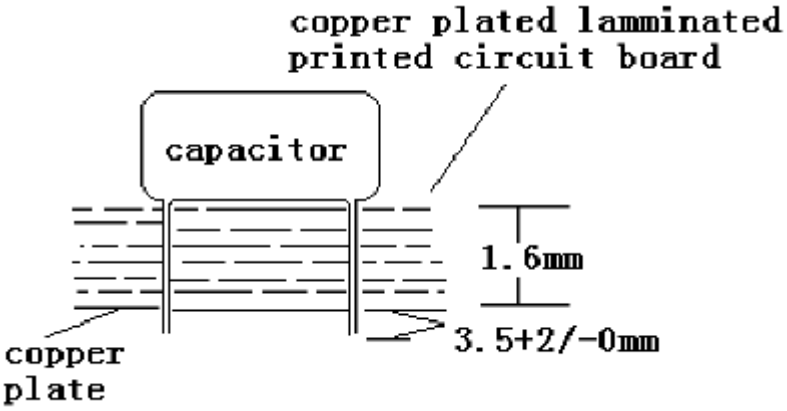


5.4 Heat shock

The lead of capacitor is immersed into the solder bath at 260±5℃ for 5±0.5 sec. The dipping speed into, and raising speed from the molten solder shall be 25±6mm/

sec. After the test, the capacitor shall be visually examined, there shall be no visible damage and capacitance drift less than 0.5% and tangent of the loss angle be less than 1.2 times of stated value.

5.5 Vibration (show as:)



When the capacitor is subjected to the vibration test specified by the verily frequency cycle, 1 minute per cycle from 10Hz to 5Hz and then 10Hz with an amplitude of 1.5mm in three directions (vertical horizontal and lateral) for 2 hours each with a total of 6 hours. After this, inspection shall meet the initial requirement. The capacitor shall be mounted by the following methods:

The capacitor lead wires shall be inserted vertically as deep as the their root into a copper-foiled laminated board, and the lead wire shall be soldered to the copper foil. Then, the copper-foiled laminated board with the capacitor shall be rigidly fixed to the vibration test plate. After the test, the connection of element in compliance with the previous items (connection of element) and the capacitor shall be no abnormality on the appearance.

6. WEATHERABILITY TESTING METHODS:

6.1 High temperature

Place the capacitor in a thermostatic oven kept at +85℃ after reaching the thermal stability, The result of measurement shall meet the requirement given in the following items:

6.1.1 Capacitance drift: the rate +5% max of initial value;

6.1.2 Dissipation factor: less than 0.2% at 1KHz

6.2 Low temperature

Place the capacitor in a thermostatic oven kept at -40℃ after reaching the thermal stability, The result of measurement shall meet the requirement given in the following items:

6.2.1 Capacitance drift: the rate -5% max of initial value;

6.2.2 Dissipation factor: less than 0.15% at 1KHz;

6.3 High-temperature loading

Place the capacitor in a thermostatic oven kept at +85℃ for 1 hour, and then applied 125% of the rated voltage for 1000 hours. After this, take out the capacitor from the thermostatic oven for 1 to 2 hours. The result of measurement shall meet the requirement given in the following items:

6.3.1 Capacitance drift: +5% max of initial value,

6.3.2 Dissipation factor drift: +0.4%max, at 1KHz,

6.3.3 Insulation resistance: over than 50%of initial value.

6.4 Humidity

Place the capacitor in a thermostatic oven dept at temperature 40±3℃ and humidity 90-95% for 96±4% hs. After this, take out the capacitor from the thermostatic oven for16 hours. The result of measurement shall meet the requirement given in the following items:

6.4.1 capacitance drift: +3% max of initial value.

6.4.2 Insulation resistance: over than 50% of initial value.

6.4.3 Dissipation factor: less than 0.15%.

7.MARKING:

7.1 Marking on individual capacitor includes:

7.1.1 Rated capacitance: such as 684

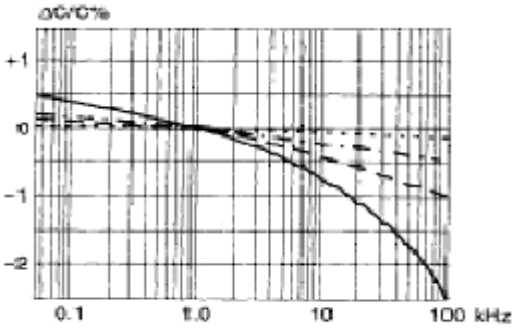
7.1.2 Rated voltage: such as 630VDC

7.1.3 Capacitance tolerance: such as K.

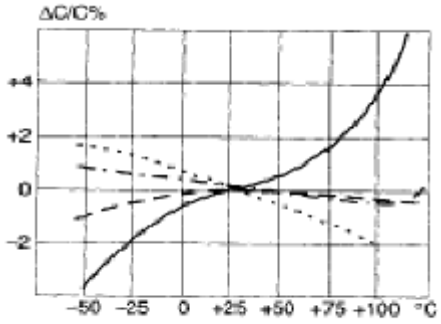
7.2 Marking on package

Each package unit carry the type, rating, quantity and date of manufacture, location of manufacture, and manufacturer's name.

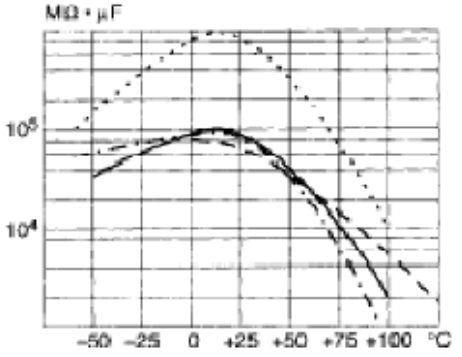
8. PROPERTIES OF CAPACITOR AND THE DIELECTRICS:



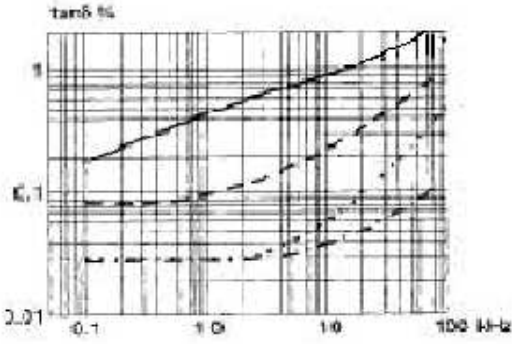
Capacitance vs. frequency



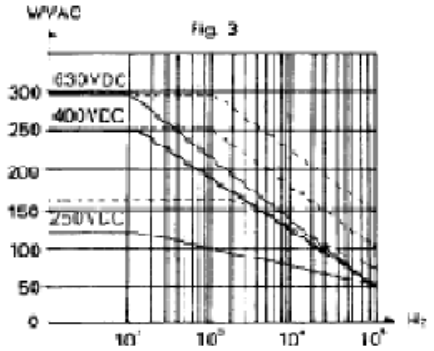
Capacitance vs. termperature



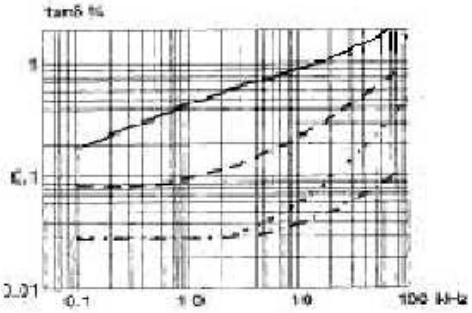
Insulation resistance vs.temperature



Dissipation factor vs.frenquency



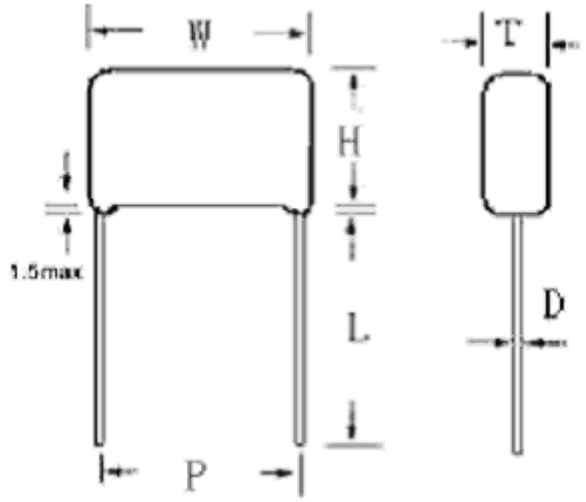
Working Voltage DC&AC vs. frequency



Dissipation factor vs.frenquency

Polyester
Polyropylene
Polycarbonate
polystyrene

9.OUTLNE DRAWING:



10.DIMENSION: UNIT：mm

SYMBOL	CAP	COLOR	W ±1.5	H	T ±1.5	P ±1.0	D ± 0.05	L ±5.0
684K630VDC	0.68uF	Brown	26.0	20.00 max.	10.00 max.	22.5	0.8	25.0

THE END