

**CAUTION FOR PROPER USE OF PMLCAP®**

Upon using PMLCAP®, please pay attention to the points listed below.  
Catalog may be subject to change without notice.

**1. RATED VOLTAGE**

Sum of D.C. voltage and peak A.C. voltage should not exceed rated voltage(D.C.).

1) When a D.C. rated capacitor is used in an A.C. circuit,  
the capacitor generates heat and discharge. Please consult us in this case.

**2) Rated voltage derating by category temperature**

Please consult us when operating capacitors at high temperature.

**3) Rated voltage derating by high frequency**

Using capacitors at high frequency will be shorten its life due to the generation of heat. Please consult us in this case.

**4) Use in special wave-form**

If you want to use capacitors with a special wave-form other than a sine wave, please inquire to us for details after identifying the wave-form with which the capacitor is required to be used, because the effective value varies with wave-form.

**2. PERMISSIBLE CURRENT****1) Permissible current for frequency**

Please contact us in advance.

**2) Permissible peak current (pulse current)**

If you want to use the capacitor with a special wave-form other than a sine wave, please inquire to us for details after identifying the wave-form with which the capacitor is required to be used, because the effective value varies with wave-form.

**3. SELF HEAT RISE**

Please confirm self heat rise (within 10°C) when the capacitors shall be maintained.

**4. CATEGORY TEMPERATURE**

Atmospheric temperature range at which a capacitor may be used continuously. However, when the temperature of capacitor goes up due to A.C. components included in A.C. voltage or D.C. voltage (ripple), the maximum temperature at the surface of the capacitor shall be considered as the upper category temperature.

**5. USE IN HUMID ENVIRONMENT**

When used for a long time humid environment, the capacitor elements absorb moisture. As a result, the capacitor might break down. When used under the humid condition, please consult us.

**6. SOLDERING****1) Reflow soldering**

This capacitor shall be used in only reflow method. Don't use in flow, dipping and VPS soldering method. Please confirm your reflow conditions (reflow time, temperature). Soldering conditions should be according as recommended reflow temperature profile.

**2) Using soldering iron**

Use the soldering iron for the case of testing, reworking under the following conditions.

Items	Conditions
Temperature	350°C Max
Time	4.0 seconds Max
Power	30W Max
Other	No preheat

- Soldering frequency shall be 1 time.
- Reworking with soldering iron after reflow soldering shall be performed with above conditions. Reworking frequency shall be 1 time.
- The tip of soldering iron must not touch with capacitors directly.
- Please contact us in advance when require further conditions except for above.

**3) Solder paste**

A recommended solder paste thickness is between 0.1mm to 0.2mm. The content of halogen in the soldering flux should be 0.1wt% or less.

**4) Tentative mounting**

This Product cannot be used again when the double-stick tape is used for tentative mounting.

**7. CLEANING SOLVENTS**

Please contact us in advance when cleaning the PC board after mounting. If used improper cleaning agent and/or ultrasonic, the capacitor may be damaged.

**8. STORAGE CONDITION**

In environment with humidity change, capacitance of this capacitor will change (increase and decrease) because of capacitor absorb or discharge moisture by environment. The aluminum moisture-proof bag (dry pack) with silica-gel is used for shipping. But, the reliability after soldering may be deteriorated depending on the storage conditions after opening dry pack due to the absorbing of capacitor.

The capacitor after opening dry pack should be kept in dry storage conditions at a relative humidity less than 50% or be kept in dry pack with silica-gel again.

When the capacitor, that absorbs moisture, is mounted in a reflow method, dry the capacitor to 125°C for over 5 hours, then mount.

**9. DISPOSAL**

In case of rejecting capacitors, please seek for professionals who deal with the industrial wastes management.