

■ **Notice (Storage and Operating Condition)**

1. Store in temperatures of -10 to +40°C and relative humidity of 30 to 85%.
2. Do not store in or near corrosive gases.
3. Use within six months after delivery.
4. Open the package just before using.
5. Do not store under direct sunlight.
6. If you use the trimmer potentiometer in an environment other than listed below, please consult with a Murata factory representative prior to using.  
The trimmer potentiometer should not be used under the following environmental conditions:

- (1) Corrosive gaseous atmosphere  
(Ex. Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
- (2) In liquid  
(Ex. Oil, Medical liquid, Organic solvent, etc.)
- (3) Dusty/dirty atmosphere
- (4) Direct sunlight
- (5) Static voltage or electric/magnetic fields
- (6) Direct sea breeze
- (7) Other variations of the above

■ **Notice (Rating)**

1. When using with partial load (rheostat), minimize the power depending on the resistance value.
2. The maximum input voltage to a trimmer potentiometer should not exceed  $(P \cdot R)^{1/2}$  or the maximum operating voltage, whichever is smaller.
3. If the trimmer potentiometer is used in DC and high humidity conditions, please connect wiper (#2) for plus and resistive element (#1 or #3) for minus.

■ **Notice (Soldering and Mounting)**

1. Soldering

- (1) Reflow soldering method and soldering iron are available. This product cannot be soldered using the flow soldering method (dipping). If you use the flow soldering method, the trimmer potentiometer may not function.
- (2) Use our standard land dimension. Excessive land area causes displacement due to the effect of the surface tension of the solder. Insufficient land area leads to insufficient soldering strength of the chip.
- (3) Soldering Conditions  
Refer to the temperature profile. If the soldering conditions are not suitable, e.g., excessive time and/or excessive temperature, the trimmer potentiometer may deviate from the specified characteristics.
- (4) Apply the appropriate amount of solder paste.  
The thickness of solder paste should be printed from 100 micro m to 150 micro m and the dimension of land pattern used should be Murata's standard land pattern at reflow soldering. Insufficient amounts of solder can lead to insufficient soldering strength on PCB.  
Excessive amounts of solder may cause bridging between the terminals.
- (5) The soldering iron should not come in contact with the case of the trimmer potentiometer. If such contact does occur, the trimmer potentiometer may be damaged.


2. Mounting

- (1) Do not apply excessive force, preferably 4.9N max. (Ref. 500gf) when the trimmer potentiometer is mounted to the PCB.
- (2) Do not warp and/or bend the PC board to protect trimmer potentiometer from breakage.
- (3) In chip placers, the recommended size of the cylindrical pick-up nozzle should be outer dimension 1.5-1.8mm dia. and inner dimension 1.3mm dia.

3. Cleaning

- (1) In case there is flux on the resistive element, clean sufficiently with cleaning solvents and completely remove all residual flux.
- (2) Isopropyl alcohol and ethyl alcohol are applicable solvents for cleaning. If you use any other types of solvents, please evaluate performance with your product.

## Caution · Notice

 Continued from the preceding page.

### ■ Notice (Handling)

1. Use suitable screwdrivers that fit comfortably in the driver slot. We recommend the screwdriver below.
  - \* Recommended screwdriver for manual adjustment  
Murata P/N: KMDR190
2. The screwdriver should be set in the products vertically, do not apply more than 4.9N (Ref. 500gf) of twist and stress after mounting onto PCB to prevent contact intermittence. If excessive force is applied, the trimmer potentiometer may not function.
3. Please use within the effective rotational angle. The trimmer potentiometer does not have a mechanical stop for over rotation. In cases out of effective rotational angle, the trimmer potentiometer may not function.
4. When using a lock paint to fix the slot position or cover the rotor, please evaluate performance with your product. Lock paint may cause corrosion or electrical contact problems.

### ■ Notice (Other)

1. Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Murata cannot guarantee trimmer potentiometer integrity when used under conditions other than those specified in this document.