

## Type CT6 Series

### Key Features

- Robust enclosed construction
- Dust and flux proof
- New resin moulded element
- Space-saving device
- Arrow position indicator
- Top, bottom and side adjustment styles
- Stable in high humidity



This miniature trimmer incorporates the latest technology developments and has been rigorously tested to very high standards. Special attention at the design stage has created a new resin moulded technology which is ideally suited to high volume, low-cost applications in a range of consumer and industrial markets. The CT6 series is also available taped and ammo packed for extra high-speed insertion. The cross-slot head is designed for automatic adjustment and the CT6 series can also be adjusted from both sides.

### Characteristics - Electrical

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| Resistance Range:         | 100R to 1M                                                 |
| Resistance Values:        | 1, 2, and 5 in each decade                                 |
| Resistance Tolerance:     | ± 30%                                                      |
| End Resistance:           | <3%                                                        |
| Maximum Wiper Current:    | 50mA                                                       |
| Power Rating:             | 0.1W at 50°C derating to zero at 70°C                      |
| Limiting Element Voltage: | ≤ 500K 50V<br>> 500K 25V                                   |
| Residual Resistance:      | <1K      1K – 2K      >2K<br>30R max.   60R max.   3% max. |

### Characteristics - Mechanical

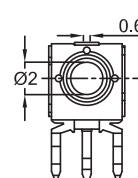
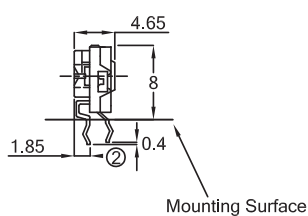
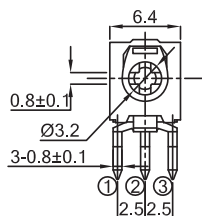
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|------------------------|--------------------------------|
| End Stop:              | 75mNm minimum                  |
| Starting Torque:       | 2 – 25mNm maximum              |
| Mechanical Adjustment: | 210° nominal                   |
| Terminal Strength:     | 5mNm (At PCB mounting surface) |

### Characteristics - Environmental

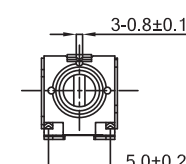
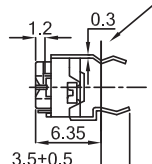
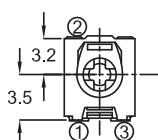
|                                                     |                                                                                                                             |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Temperature Range:                                  | -20°C to +70°C                                                                                                              |
| Temperature Storage:                                | -40°C to +75°C                                                                                                              |
| Bump Severity:                                      | 4000 bumps; 40G                                                                                                             |
| Vibration Severity:                                 | 10 - 55Hz; 10G                                                                                                              |
| Rotational Life:                                    | 100 cycles minimum                                                                                                          |
| Load Life at 40°C:                                  | ΔR <10% after 1000 hours at 0.15W                                                                                           |
| Climatic Category:                                  | 25/70/21                                                                                                                    |
| Sealing:                                            | Dust and flux proof                                                                                                         |
| Resistance to Soldering Heat:                       | 240°C to 280°C for 5 seconds max.<br>280°C to 300°C for 3 seconds max.                                                      |
| Resistance to Damp Heat (40°C ±2°C 90% - 95% RH):   | R <100K after 350 hours +15 %/-0 %<br>R >100K / < 1M after 350 hours +20 %/-0 %                                             |
| Endurance under Damp Heat (40°C ±2°C 90% - 95% RH): | R <100K after 350 hours 1.5 hours on 0.5 hours off +15 %<br>R >100K / < 1M after 350 hours 1.5 hours on 0.5 hours off +20 % |
| Endurance under High Temperature:                   | 70°C ±3°C, after 250 hours +5%/-15%                                                                                         |
| Sealing:                                            | Dust and flux proof                                                                                                         |

### Dimensions

#### CT6V

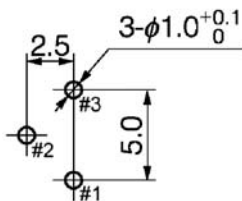


#### CT6H

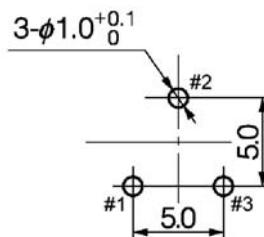


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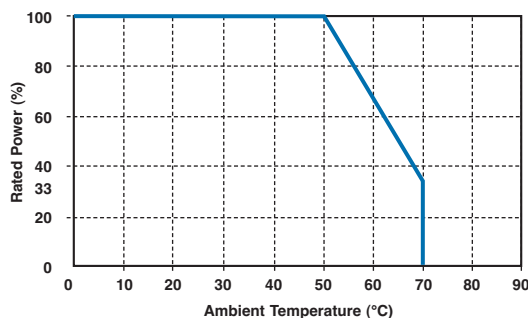
### PCB Layout CT6V



### CT6H



### Power Derating Curve

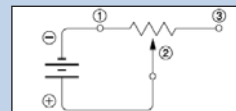


### Application Notes

When using TE's trimmer potentiometers, please observe the following items ("prohibited items") and be careful of the following in order to prevent dangerous accidents and deterioration of performance.

#### 1. Prohibited items and notes in design stage

- Use within the rating.  
The affect of the ambient temperature on trimmer potentiometers cannot be ignored. When using at a high temperature, reduce the load according to the power derating curve above.
- Handling trimmer potentiometers.  
Take care not to apply excessive stress to a trimmer potentiometer after mounting it to a PCB (Printed Circuit Board).
- Anodisation.  
When DC is applied to a wiper (terminal 2), anodisation may occur at the contact part of the wiper with the resistive element, resulting in abnormal resistance variation. When DC is used, to prevent anodisation, the resistive element should be connected to the negative side and the wiper should be connected to the positive side, as shown in the figure to the right.



#### 2. Prohibited items and notes on handling

- Storage.  
Do not store trimmer potentiometers at high temperatures and/or under conditions of high humidity, or in a location where corrosive gas may be generated. In particular, when storing for long periods, do not unpack the trimmer potentiometers and do not store them as a single unit.
- Operational direction.  
Since the stopper strength at the rear side is 35mNm, which is smaller than at the front side, operation for adjustment from the front side is recommended.

#### 3. Prohibited items on fire and smoking

- Absolutely avoid use of a trimmer potentiometer beyond its rated range because doing so may cause a fire. If misuse or abnormal use may result in conditions in which the trimmer potentiometer is used out of its rated range, take proper measures such as current interruption using a protective circuit.
- The grade of non-flammability for resin used in trimmer potentiometers is "94HB," which is based on UL94 Standards (flammability test for plastic materials). Prohibit use in a location where spreading fire may be generated or prepare against a spreading fire.

### How to Order

| CT6                       | H                                               | 102                                                                                                                                                                             | N         |
|---------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Common Part               | Orientation                                     | Resistance Value                                                                                                                                                                | Tolerance |
| CT6 - 6mm moulded trimmer | H - top / bottom adjust<br>V - both side adjust | The first two digits are significant figures of resistance value.<br>The third denotes the number of zeros following.<br>e.g. 100R - 101<br>1K - 102<br>10K - 103<br>100K - 104 | N - 30%   |

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