

Type 3121 Series



Is this the ultimate in small size electro-mechanical components? Probably not, but certainly so for some long time to come. Just 2.2mm x 2.7mm in size, this tiny surface mount trimmer is offered in a range of values and available from Tyco Electronics NOW. The 3121 covers a board area of approx. 6mm square - about the same size as a 12:06 flat chip. Its adjustment rotor has an unbroken perimeter with internal driver slot allowing standard vacuum nozzles and trim tools to be used.

Key Features

- Consumes Minimal Board Space
- Taped and Reeled (8mm)
- 50V Operating Maximum
- Wide Value Range
- Attractively Priced
- Suited to Pick and Place
- 0.15 Watts Power Rating
- Stable Alumina Substrate

Characteristics - Electrical

| | |
|---|-----------------------------|
| Resistance Range: | 100R to 1M (Linear) |
| Resistance Values: | 1, 2, 5 in each decade |
| Resistance Tolerance: | ± 25% |
| Temperature Coefficient of Resistance: | ±250ppm/°C (-20°C ~ +85°C) |
| Continuous Operating Voltage: | 50 Volts DC maximum |
| Power Rating @ 70°C: | 0.15 Watt |
| Effective Electrical Angle: | 260° ±20° |

Characteristics - Mechanical

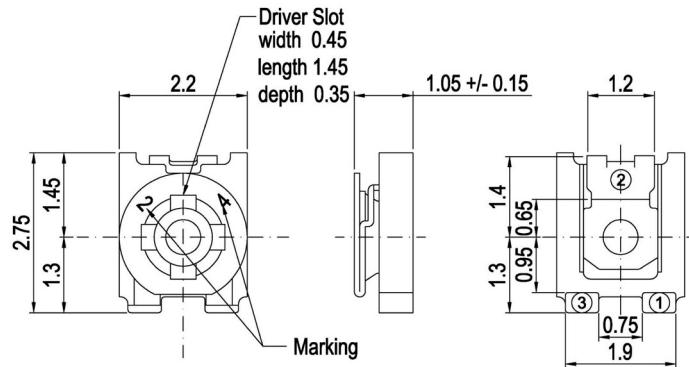
| | |
|-------------------------------|---------------------------------|
| Mechanical Adjustment: | Continuous |
| Rotational Torque: | 1 to 15 mNm |
| Rotational Life: | ±15% maximum change (20 cycles) |
| Packaging: | 3000 pieces per 7" reel |

Characteristics - Environmental

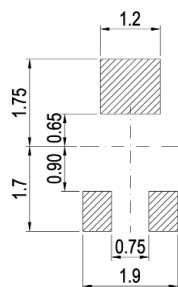
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|-------------------------------|-----------------|
| Operating Temperature: | -40°C to +100°C |
| Storage Temperature: | -10°C to +40°C |
| Storage Time: | 6 Months |

For maximum shelf life do not disturb polythene sleeve until you are ready to use potentiometers.

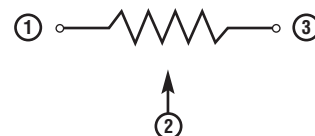
Dimensions



Recommended Land Pattern

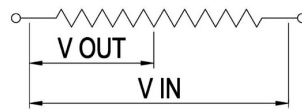


Circuit Diagram

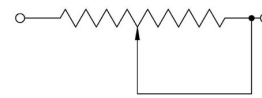


Application Notes-

Suggested Circuit Configuration



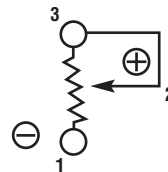
A. Voltage divider type



B. Current controller type

The best results are obtained when using the potentiometer as a voltage divider see diagram circuit A below. Current controller type circuit B below is not a recommended application for this potentiometer.

Anode Oxidation



When D.C. current is used and the trimmer is to remain in one set position for a long period, it is good practise to connect the negative line to the resistance element and the positive line to the wiper terminal. With the polarity reversed, particularly in moist conditions, it is possible for the surface oxidation of the contact to cause a resistance increase.

Notes

Solder and Flux deposited onto the surface of the resistive element, can cause damage to the wiper. Please ensure potentiometer is fully cleaned prior to adjustment. The use of Lock Paint is not recommended for the 3121 Series

How to Order

| 3121 | X | 102 | P |
|---------------------|--|---|-----------|
| Common Part | Orientation | Resistance Value | Tolerance |
| Auto Adjust Trimmer | X - Terminals 1 and 3 away from the sprocket holes | The first two digits are significant figures of resistance value and the third denotes the number of zeros following. e.g. 1K: 102 5K: 103 100K: 104 | P - 25 % |