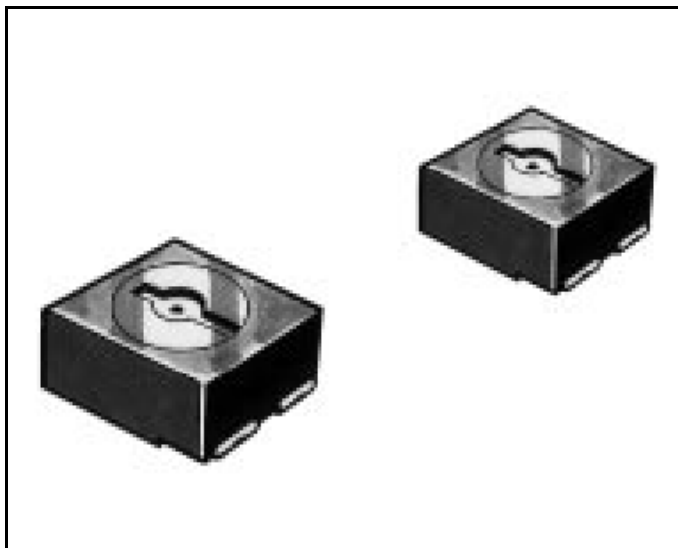


TYPE 3204 SERIES

1st April 2003
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SMD Economy Trimmers

**TYPE 3204 SERIES**

The 3204 miniature chip trimmer incorporates the latest technology developments and has been rigorously tested to the highest standards. Special attention during the design of the product, ensures that this component meets specific requirements of hybrids and modern surface mounting boards. It is fully sealed until you are ready to trim, so it is highly suitable for both dip and wave soldering. It can then be resealed by the use of rubber based lock paint. Issue two product data includes slight design changes to improve cost effective manufacture.

KEY FEATURES

- Cermet Element
- Suitable for Dip and Wave Soldering
- Attractively Priced
- Available in Standard 12mm Tape
- Available from Stock
- Small, Compact Size (4mm Square)
- Terminal Layout Stops Solder Bridging
- Smooth Top Assists Placement

STOCKISTS:

This product is not stocked in Distribution.

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ELECTRICAL

Resistance Range:	100R to 1M
Standard Resistance Values:	1, 2, 5 in each decade
Resistance Tolerance:	± 25%
Temperature Coefficient of Resistance:	± 250ppm / °C (-30°C to 100°C)
Resistance Law:	Linear
Maximum Operating Voltage:	50V DC or AC RMS maximum
Resolution:	Essentially Infinite
Contact Resistance:	<10R below 1K - <1% above 1K
Power Rating:	0.1W at 70°C
Effective Electrical Angle:	250° ± 20°

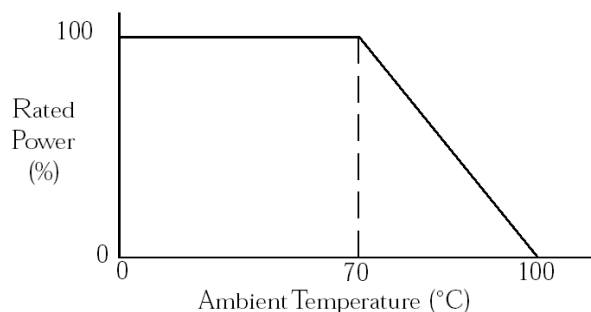
MECHANICAL

Rotational Torque:	2 to 20 mNm
Mechanical Adjustment:	Continuous
Weight:	0.11 grams
Soldering Strength:	Horizontal 500gf minimum Vertical 500gf minimum

ENVIRONMENTAL

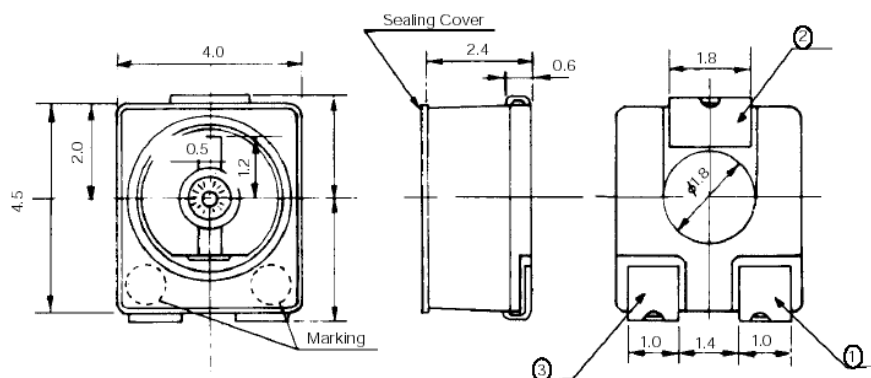
Temperature Range:	- 20°C to 85°C
Temperature Storage:	500 hours at 70°C
Rotational Life:	20 cycles (See test methods)
Load Life:	ΔR < 5% after 1000 hours
Sealing:	Sealed for dip and wave solder until silicone is removed
Soldering Heat:	250°C ± 5°C for 5 ± 1 seconds
Humidity Load Life:	ΔR ± 5% after 500 hours at 95 RH under load
High Temperature Rise:	ΔR ± 5% after 500 hours at 100°C

DERATING CURVE



When the ambient temperature exceeds 70°C, reduce the rated power and current in accordance with the derating curve shown.

DIMENSIONS

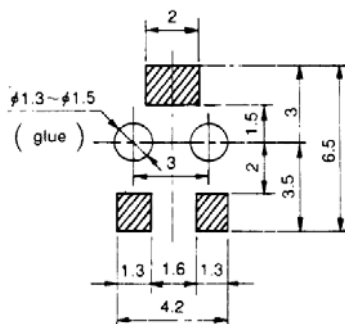


All Dimensions are in mm and nominal.
Do Not Scale.

TYPE 3204 SERIES

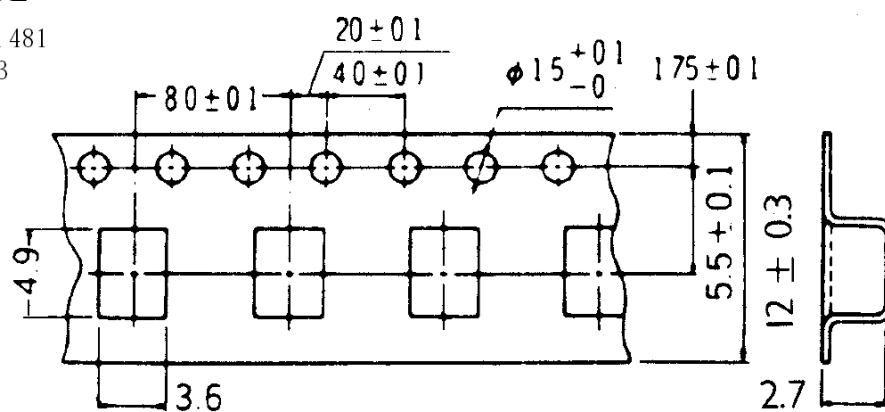
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SUBSTRATE LAYOUT



PACKAGING TAPE

To meet EIA 481
IEC 286 PT3

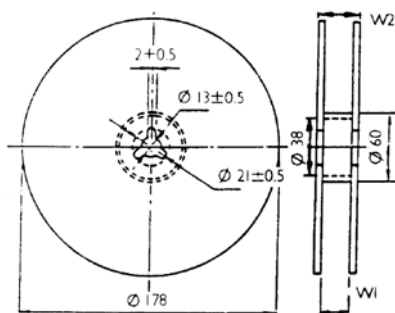


Tape Running Direction →

PACKAGING (REEL)

Reel Qty
500 pcs

W1	W2
18.0	13.5



HOW TO ORDER

3204 COMMON PART	X ORIENTATION	502 RESISTANCE VALUE	N TOLERANCE
4mm Sealed Trimmer	X - Terminals 1 and 3 away from sprocket holes	The first digits are significant figures of resistance value and the third one denotes the number of zeros following Example 1 K : 102 5 K : 502 100K : 104	N - 25%

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STANDARD SOLDERING METHOD

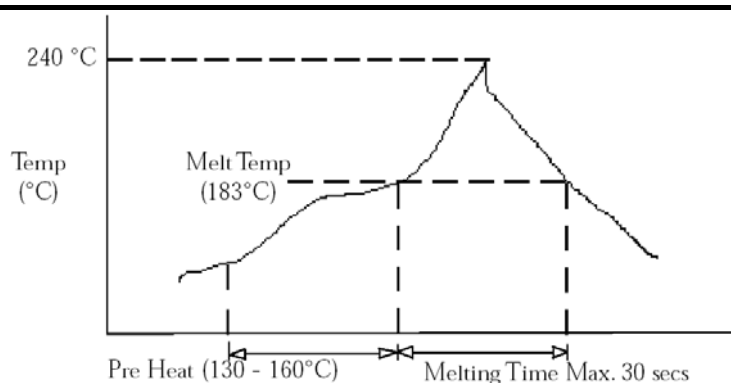
MANUAL SOLDERING:

Preheat the land pattern fully before soldering. Ensure you do not touch the plastic case with the tip of the soldering iron. Rework can only be allowed once. Use a 20 Watt maximum soldering iron.

REFLOW SOLDERING NO PRE-HEAT

Do not remove the silicone seal before reflow soldering. Reflow soldering should take place with the wiper set at the mid point. Rework should be undertaken only once.

PROFILE OF TEMPERATURE (REFLOW SOLDERING)



AMBIENT TEMPERATURE

Care must be taken with regard to ambient temperature of potentiometers. Load should be derated in accordance with specified derating curve, at high temperatures.

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 practice 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 surface oxidation of the contact to cause a resistance increase.

STORAGE

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

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