



CMAI INTERNATIONAL LIMITED

深圳市昌迈科技有限公司

Add:2003,LongGuangJiuZuan Building 5A,Tenglong Road , Hongshan, Longhua District, ShenZhen,518131

Tel:86-755-28146223

Email:admin@cmaisilicone.com

Fax:86-755-28146329

Website:www.cmaisz.com

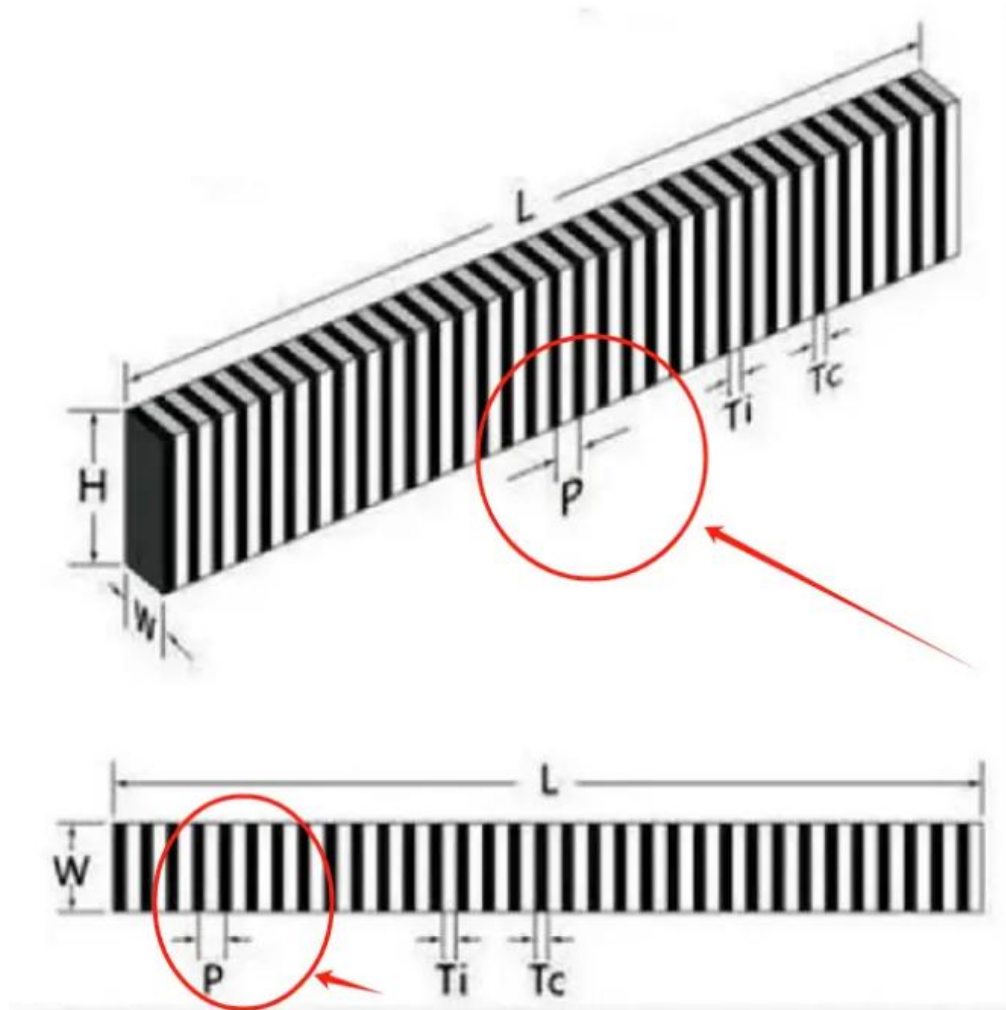
Advantages of conductive silicone strips

Conductive silicone strips (conductive zebra strips) are widely used in electronic devices. The following are their core advantages, covering uniform P-value, low resistance, small skew, good stability, and performance in high and low temperature tests.

1. The P-value (spacing) is uniform

The P-value of the conductive rubber strip refers to the distance between the centerlines of adjacent conductive layers in the electrical rubber strip, that is, the thickness of a single cycle when the conductive silicone layer and the insulating silicone layer are alternately superimposed. We have a variety of P-values to choose from and they are uniform, as shown in the following figure.

Item	Unit	0.05P	0.10P	0.18P	0.25P
Pitch P	m m	0.05 ± 0.02	0.01 ± 0.03	0.18 ± 0.04	0.25 ± 0.05



2. Characteristics of low resistance

The conductive layer of the conductive rubber strip is supported by silicone with highly conductive fillers (such as carbon black or metal particles), which has an extremely low volume resistivity, ensuring efficient signal transmission and reducing energy loss.

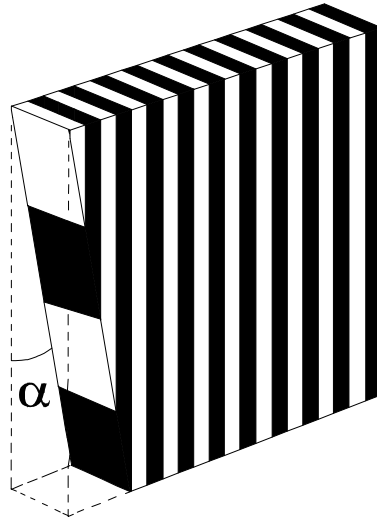
- The resistivity of the insulation layer: 10^{12}
- Contact resistance: Under a force of 30g, the surface contact resistance is less than 100Ω
- Resistivity of the conductive layer: $2.5-6 \Omega \cdot \text{cm}$

3. The deviation of the insulation layer $\alpha \leq 2^\circ$

The conductive layer and the insulating layer of the conductive rubber strip are arranged alternately, and the deflection of the insulating layer is controlled at $\alpha \leq 2^\circ$.

- The contact surface should be flat to avoid poor contact caused by tilting

- It is suitable for high-precision linking, such as the connection between LCD displays and PCB boards
- Schematic diagram of skewness, as follows



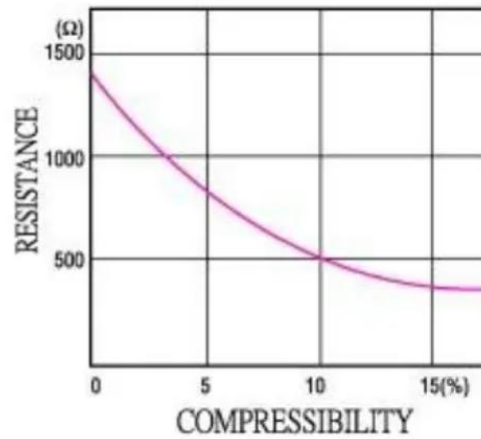
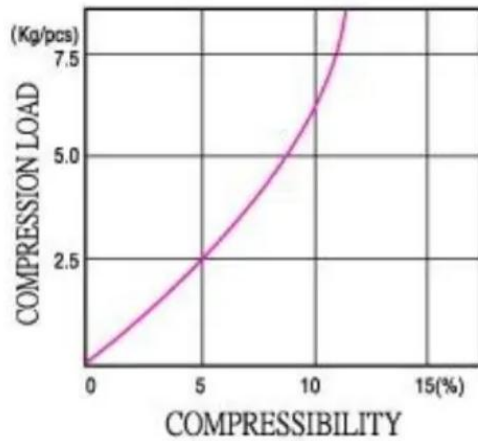
4. Good stability

Conductive silicone strips show excellent stability in long-term use, mainly reflected in:

- High interlayer bonding strength: The conductive layer and the insulating layer are closely combined, with no risk of delamination.
- Texture retention: It is not prone to deformation under long-term pressure, ensuring a uniform contact surface
- Anti-corrosion and sealing properties: Conductive rubber strips can form an airtight seal, moisture-proof, anti-corrosion, and extend their service life.
- Anti-shock and cushioning: Silicone material is elastic, protecting components from damage caused by impact.
- Compression curve: As shown in the following figure

Sample test: 0.18P x (L)30 x (H)2.0 x (W)2.0 (mm)

Electrode width: 1.0mm



5. Performance in high and low temperature tests

Conductive rubber strips still maintain good performance in extreme temperature environments.

Operating temperature range: -25°C to 100°C, short-term temperature resistance up to 200°C.

- Operating temperature range: -45°C to 150°C, short-term temperature resistance up to 200°C.
- Humidity adaptability: It can still operate stably at 85% relative humidity (25°C)
- Reliability test

Item	Test conditions	Test results
Low-temperature placement test	-20°C, 480HR	The test complies with the provisions of the preceding paragraph
High-temperature placement test	100°C, 480HR	The test complies with the provisions of the preceding paragraph
High humidity placement test	Relative humidity 85%, 65°C, 480 HR	The test complies with the provisions of the preceding paragraph
Compression permanent deformation amount	Compression ratio 15%, 70°C, 424 HR	In the compressed state, the height is over 95% of that before the test