

# Ultra-Low Ohmic Resistors for Current Detection

## PMR10

### ●Features

- 1) Ultra low-ohmic resistance range (2mΩ~)
- 2) Improved current detection accuracy by trimming-less structure.  
Highly recommended for large current / High speed switching circuit.
- 3) Completely Pb free product
- 4) ISO9001- / ISO/TS 16949-approved

### ●Ratings

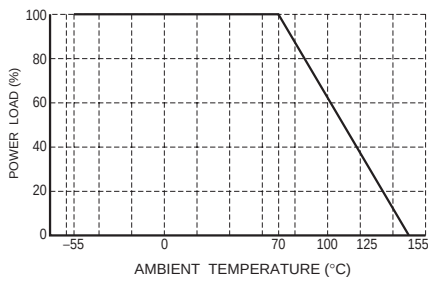
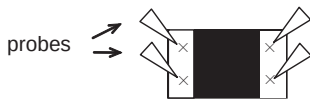
| Item                           | Conditions                                                                                                                                                                                                            | Specifications           |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Rated power                    | For resistors operated at the ambient temperature in excess of 70 , the load shall be derated in accordance with Fig.1<br><br>Fig.1 | 0.5W (1 / 2W)<br>at 70°C |
| Rated voltage<br>Rated current | Rated voltage and current are determined from the following.<br>$E = \sqrt{P \times R}$ $I = \sqrt{P / R}$<br>E: Rated voltage (V)<br>I : Rated current (A)<br>P: Rated power (W)<br>R: Nominal resistance (Ω)        |                          |
| Nominal resistance             | See <a href="#">Table 1.</a>                                                                                                                                                                                          |                          |
| Operating temperature          |                                                                                                                                                                                                                       | -55°C to +155°C          |

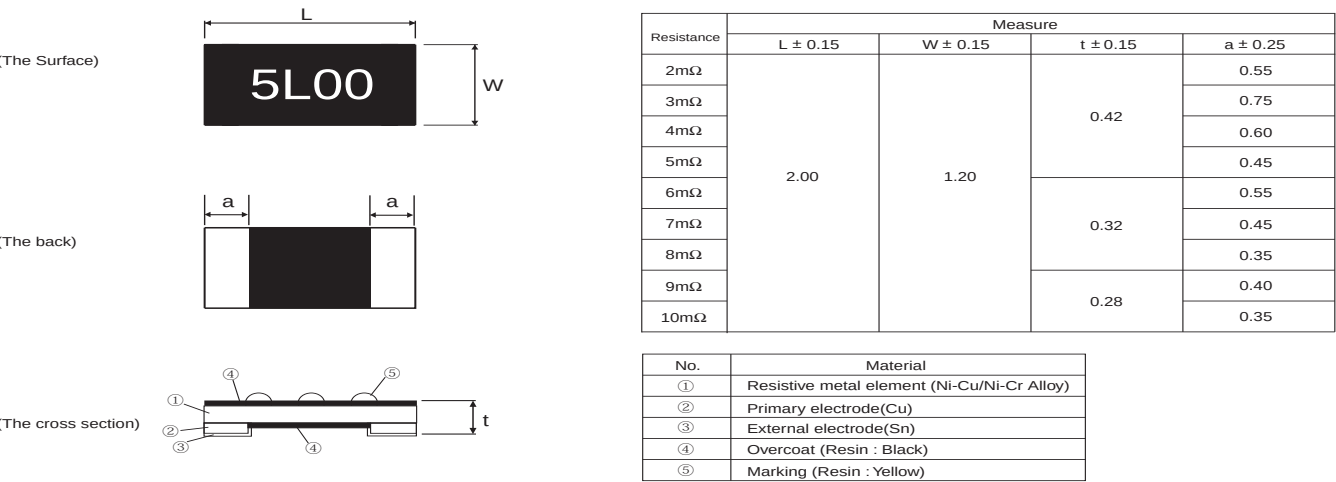
Table.1

| RESISTANCE<br>(mΩ) | TOLERANCE          | SPECIAL<br>CODE | TEMPERATURE<br>COEFFICIENT (ppm / °C) |
|--------------------|--------------------|-----------------|---------------------------------------|
| 2,3,4              | F (±1%)<br>G (±2%) | V               | ±150                                  |
| 5,6,7,8,9,10       | J (±5%)            | U               |                                       |

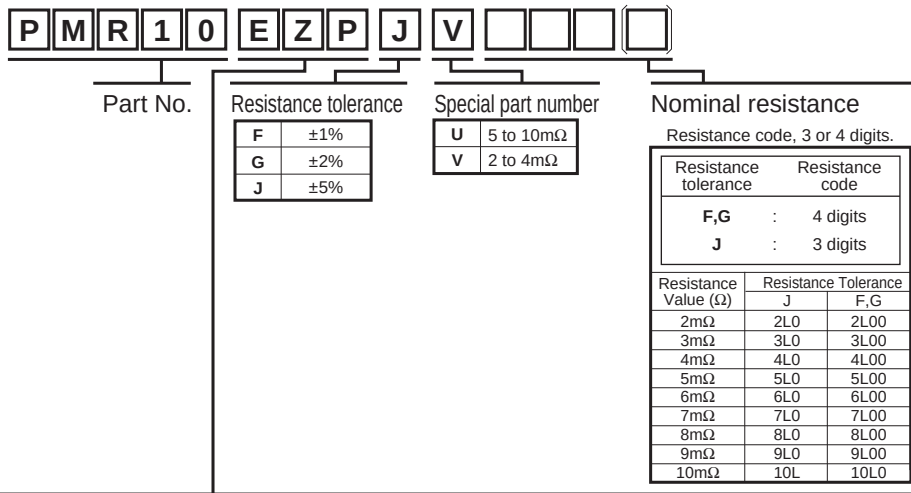
## ●Characteristics

| Item                                     | Guaranteed value                                                                               | Test conditions (JIS C 5201-1)                                                                                                                                                                         |
|------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                          | Resistor type                                                                                  |                                                                                                                                                                                                        |
| Resistance                               | F : $\pm 1\%$<br>G : $\pm 2\%$<br>J : $\pm 5\%$                                                | JIS C 5201-1 4.5<br>Measuring method : Measure under terminations by 4 probes.<br><br>Fig.2 (Under terminations)<br> |
| Variation of resistance with temperature | See Table.1                                                                                    | JIS C 5201-1 4.8<br>Measurement : 25 / -55 / +25 / +125°C                                                                                                                                              |
| Overload                                 | $\pm 2.0\%$                                                                                    | JIS C 5201-1 4.13<br>Rated power $\times 2.5$ , 2s.                                                                                                                                                    |
| Solderability                            | A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage. | JIS C 5201-1 4.17<br>Rosin-Ethanol (25%WT)<br>Soldering condition : 235 $\pm$ 5°C<br>Duration of immersion : 2.0 $\pm$ 0.5s.                                                                           |
| Resistance to soldering heat             | $\pm 1.0\%$<br>No remarkable abnormality on the appearance.                                    | JIS C 5201-1 4.18<br>Soldering condition : 260 $\pm$ 5°C<br>Duration of immersion : 10 $\pm$ 1s.                                                                                                       |
| Rapid change of temperature              | $\pm 1.0\%$                                                                                    | JIS C 5201-1 4.19<br>Test temp. : -55°C to +125°C 5cyc                                                                                                                                                 |
| Damp heat, steady state                  | $\pm 3.0\%$                                                                                    | JIS C 5201-1 4.24<br>40°C, 93%RH<br>Test time : 56days                                                                                                                                                 |
| Endurance at 70°C                        | $\pm 3.0\%$                                                                                    | JIS C 5201-1 4.25.1<br>70°C, Rated power<br>1.5h : ON – 0.5h : OFF<br>Test time : 1,000h to 1,048h                                                                                                     |
| Endurance                                | $\pm 3.0\%$                                                                                    | JIS C 5201-1 4.25.3<br>155°C<br>Test time : 1,000h to 1,048h                                                                                                                                           |
| Resistance to solvent                    | $\pm 0.5\%$                                                                                    | JIS C 5201-1 4.29<br>23 $\pm$ 5°C<br>Solvent : 2-propanol                                                                                                                                              |
| Bend strength of the end face plating    | Without open                                                                                   | JIS C 5201-1 4.33                                                                                                                                                                                      |

●Dimensions&Construction



●Part No. Explanation

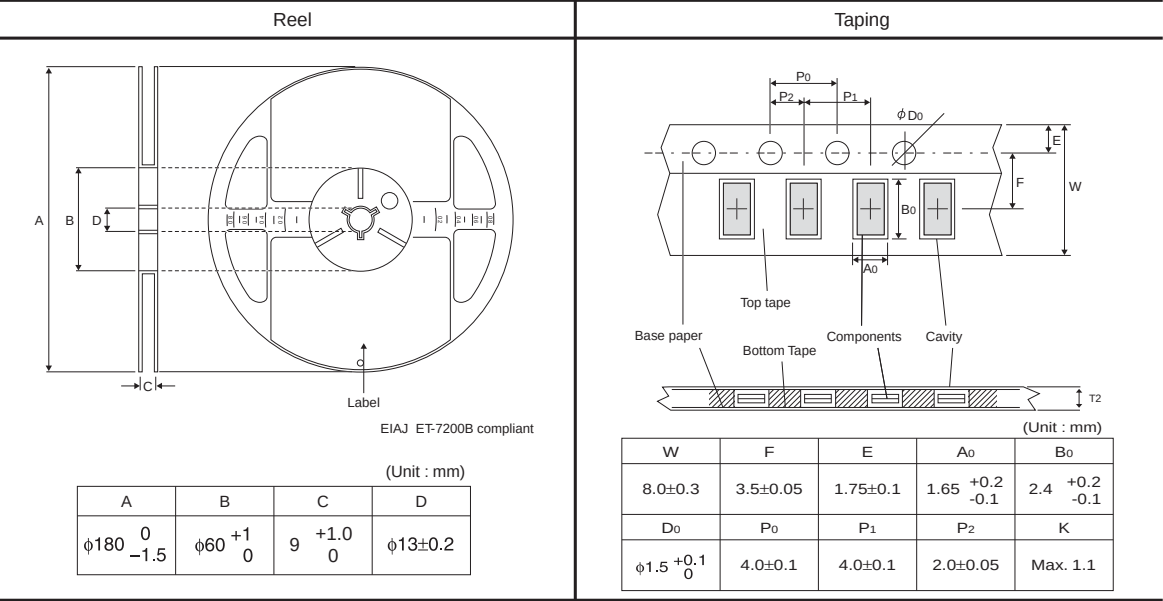


Packaging Specifications Code

| Part No. | Code | Resistance tolerance |        |        | Packaging specifications | Reel          | Basic ordering unit (pcs) |
|----------|------|----------------------|--------|--------|--------------------------|---------------|---------------------------|
|          |      | J(±5%)               | G(±2%) | F(±1%) |                          |               |                           |
| PMR10    | EZP  | ◎                    | ◎      | ◎      | Paper tape (4mm Pitch)   | φ180mm (7in.) | 5,000                     |

Reel (φ180) : Compatible with JEITA standard "EIAJ ET-7200B"  
◎ : Standard product

●Packaging



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