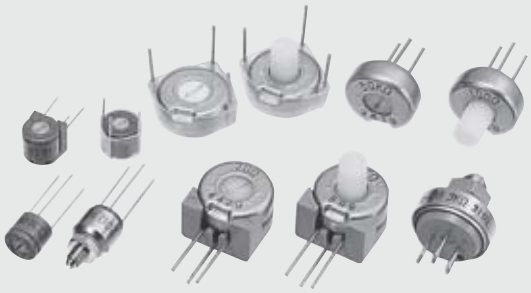
# SINGLE TURN WIREWOUND TRIMMERS λ-6/λ-13

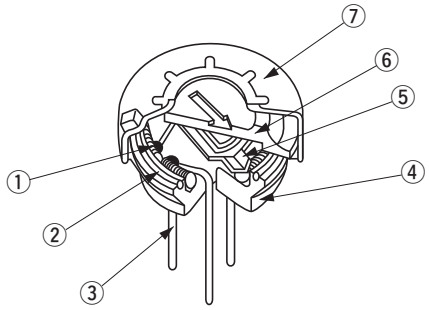
RoHS compliant



## ■FEATURES

- Low temperature coefficient of resistance
- Low contact resistance

**INTERNAL STRUCTURE**
**λ-13T**




| | Part name | Material | Flammability |
|---|---|---|---|
| ① | Resistive element | — | — |
| ② | "O" ring | Silicone rubber | UL-94HB |
| ③ | Terminal pin | Nickel, Gold-plated | — |
| ④ | Base | DAP | UL-94HB |
| ⑤ | Wiper | Copper alloy, Palladium-plated | — |
| ⑥ | Wheel | Polyoxymethylene | UL-94HB |
| ⑦ | Cover | Stainless steel | — |

## ■PART NUMBER DESIGNATION

λ - 6 (1106) — T 10 Ω

Series name
λ-6 : φ 6.6 mm (1106)
λ-13 : φ 13.5 mm (1113)

※"λ" may be replaced by 11 for type writing conveniences.

Product shape
T : Top adjustment
S : Side adjustment
F : Rear adjustment
B : Panel mount
TR : Top adjustment with knob
SR : Side adjustment with knob
FR : Rear adjustment with knob

Resistance value

**※Please refer to the LIST OF PART NUMBERS when placing orders.**

■Specifications are subject to change without notice. Specifications in this catalog are for reference. The formal specification sheets will be submitted upon request.

# λ-6/λ-13
# WIREWOUND TRIMMERS

## ■LIST OF PART NUMBERS

| Adjustment position | Dimension | |
|---|---|---|
| | φ 6.6 mm | φ 13.5 mm |
| Top adjustment | λ -6T (1106T) | λ -13T (1113T) |
| Top adjustment with knob | | λ -13TR (1113TR) |
| Side adjustment | λ -6S (1106S) | λ -13S (1113S) |
| Side adjustment with knob | | λ -13SR (1113SR) |
| Panel mount | λ -6B (1106B) | λ -13B (1113B) |
| Rear adjustment | λ -6F (1106F) | λ -13F (1113F) |
| Rear adjustment with knob | | λ -13FR (1113FR) |

⍁ : Not manufactured
※Verify the above part numbers <Nominal resistance values> (Fig. 1) when placing orders.

### 〈Nominal resistance values〉

| | λ -6 (1106) | | | | λ -13 (1113) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | T | S | B | F | T | TR | S | SR | B | F | FR |
| 10 Ω | ● | ● | →● | →● | ● | →● | ● | →● | ● | →● | →● |
| 20 Ω | ● | ● | →● | →● | ● | →● | ● | →● | ● | →● | →● |
| 50 Ω | ● | ● | →● | →● | ● | →● | ● | →● | ● | →● | →● |
| 100 Ω | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 200 Ω | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 500 Ω | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 1 kΩ | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 2 kΩ | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 5 kΩ | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 10 kΩ | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 20 kΩ | ● | ● | ● | →● | ● | →● | ● | →● | ● | →● | →● |
| 25 kΩ | | | | | →● | →● | →● | →● | →● | →● | →● |
| 30 kΩ | →● | →● | →● | →● | | | | | | | |
| 50 kΩ | | | | | ● | →● | ● | →● | ● | →● | →● |
| 100 kΩ | | | | | ● | →● | ● | →● | ● | →● | →● |

Fig. 1

**The products indicated by →● mark are manufactured upon receipt of order basis.**

## ■ELECTRICAL CHARACTERISTICS

| | λ-6 (1106) | λ-13 (1113) |
|---|---|---|
| Nominal resistance range | 10 Ω ~ 30 kΩ | 10 Ω ~ 100 kΩ |
| Resistance tolerance | ± 10 % | |
| Power rating ※1 | 0.37 W (70 °C)<br>0 W (120 °C) | 0.75 W (70 °C)<br>0 W (120 °C) |
| Electrical continuity | Continuous for full mechanical range | |
| End resistance | 2 % or 1 Ω, whichever is greater | |
| Resolution | 1.42 ~ 0.14 % | 1.07 ~ 0.08 % |
| Peak noise | 100 Ω (ENR) maximum | |
| Operating temp. range | –55 ~ 120 °C | |
| Temp. coefficient | ± 50 $10^{-6}$/°C maximum | |
| Insulation resistance | 1000 MΩ minimum (DC500 V) | |
| Dielectric strength | 900 Vrms, 1 min (Room conditions) | |
| Net weight | Approx. 0.34 g ( λ-6T)<br>Approx. 0.47 g ( λ-6S)<br>Approx. 1.41 g ( λ-6B)<br>Approx. 0.39 g ( λ-6F) | Approx. 1.60 g ( λ-13T)<br>Approx. 2.59 g ( λ-13S)<br>Approx. 5.16 g ( λ-13B)<br>Approx. 1.73 g ( λ-13TR)<br>Approx. 2.72 g ( λ-13SR)<br>Approx. 1.86 g ( λ-13F)<br>Approx. 1.93 g ( λ-13FR) |

## ■MECHANICAL CHARACTERISTICS

| | λ-6 (1106) | λ-13 (1113) |
|---|---|---|
| Mechanical angle | 310 ° (1 turn) | |
| Operating torque | 7.85 mN·m<br>{80 gf·cm} maximum | 19.61 mN·m<br>{200 gf·cm} maximum |
| Stop strength | 49.04 mN·m<br>{500 gf·cm} minimum | 98.07 mN·m<br>{1 kgf·cm} minimum |
| Rotational life | 200 cycles [ ⊿R/R ≦ 2 %] | |
| Terminal strength | 8.89 N {907 gf} minimum<br>(Tensile strength MIL-R-27208) | |

{ } : Reference only

※1 Rated power is given for the maximum input voltage (V) and maximum wiper current (mA) for the resistance value.

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# λ-6/λ-13
# WIREWOUND TRIMMERS

## ■ENVIRONMENTAL CHARACTERISTICS

**(In accordance with MIL-R-27208)**

| Test item | Test conditions | Specifications |
|---|---|---|
| Thermal shock | −65 ~ 125 °C, 5 cycles | [ΔR/R ≦ 1 % +0.05Ω] [S.S. ≦ 1 % +Resolution] |
| Humidity | 80 ~ 98 %, 240 h | [ΔR/R ≦ 1 % +0.05Ω] |
| Shock | 981 m/s² | [ΔR/R ≦ 1 % +0.05Ω] [S.S. ≦ 1 % +Resolution] |
| Vibration | Acceleration 196 m/s², 10 ~ 2000 Hz | |
| Load life | 70 °C (Full load), 1000 h | [ΔR/R ≦ 2 %] [S.S. ≦ 2 % +Resolution] |
| Low temp. operation | −55 °C, 2 h | [ΔR/R ≦ 1 % +0.05Ω] [S.S. ≦ 1 % +Resolution] |
| High temp. exposure | 120 °C, 250 h | |
| Immersion seal | 85 °C | No leaks |
| Salt spray | No corrosion | — |
| Soldering heat | 350 °C, 3 s | — |

ΔR/R : Change in total resistance
S.S. : Setting stability

## ■RESOLUTION CHARACTERISTICS

| Nominal resistance values (Ω) | Resolution (%) | |
|---|---|---|
| | λ -6 (1106) | λ -13 (1113) |
| 10 | 1.42 | 1.07 |
| 20 | 1.14 | 0.83 |
| 50 | 0.91 | 0.71 |
| 100 | 0.74 | 0.57 |
| 200 | 0.56 | 0.42 |
| 500 | 0.54 | 0.35 |
| 1 k | 0.48 | 0.40 |
| 2 k | 0.34 | 0.27 |
| 5 k | 0.28 | 0.20 |
| 10 k | 0.22 | 0.19 |
| 20 k | 0.17 | 0.12 |
| 25 k | — | 0.11 |
| 30 k | 0.14 | — |
| 50 k | — | 0.10 |
| 100 k | — | 0.08 |

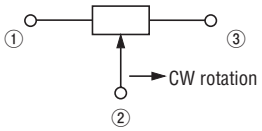
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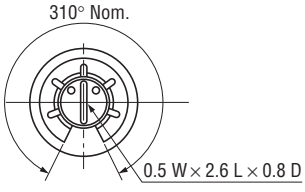
# λ-6/λ-13
# WIREWOUND TRIMMERS

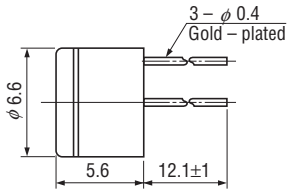
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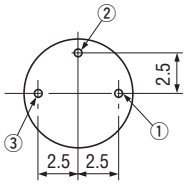
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### ● λ-6T (1106T)
### Top adjustment

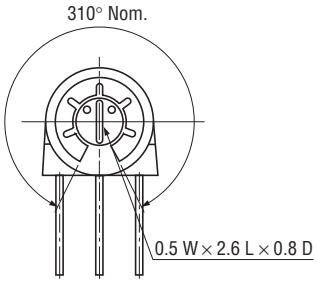


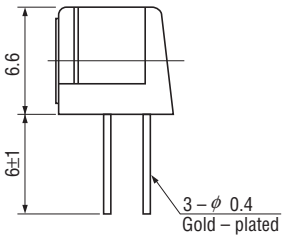



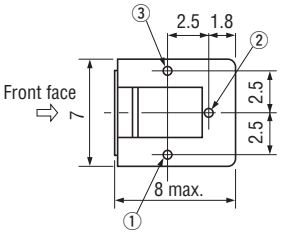



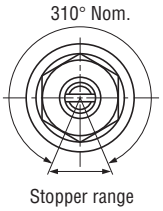

### ● λ-6S (1106S)
### Side adjustment

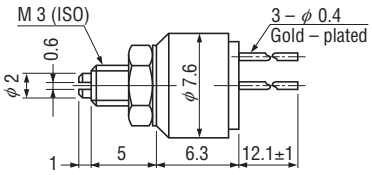


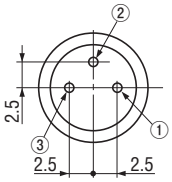



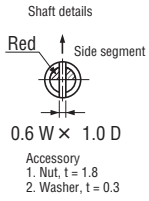




### ● λ-6B (1106B)
### Panel mount

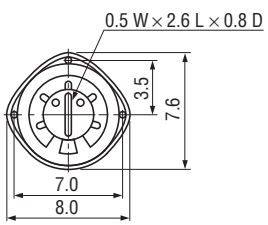


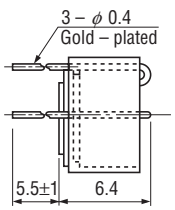



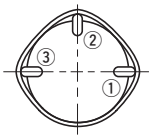




### ● λ-6F (1106F)
### Rear adjustment



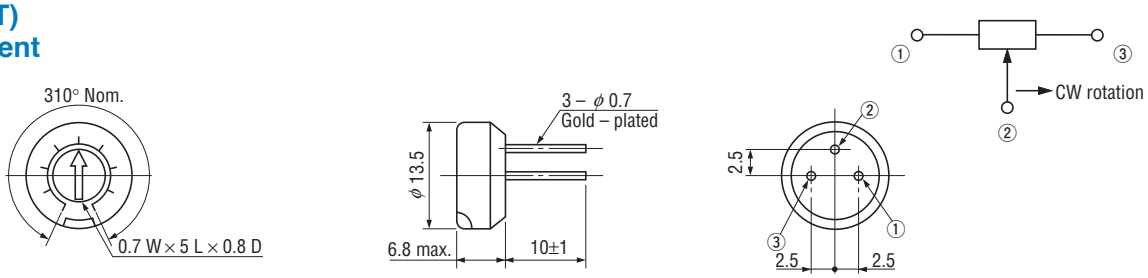

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# λ-6/λ-13
# WIREWOUND TRIMMERS

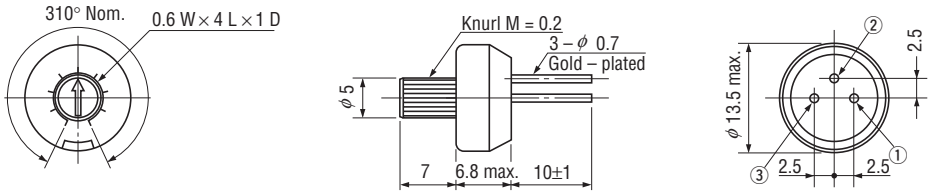
## ■OUTLINE DIMENSIONS

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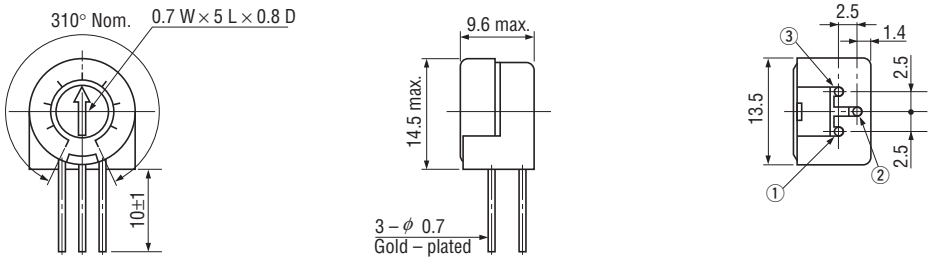
### ● λ-13T (1113T)
**Top adjustment**



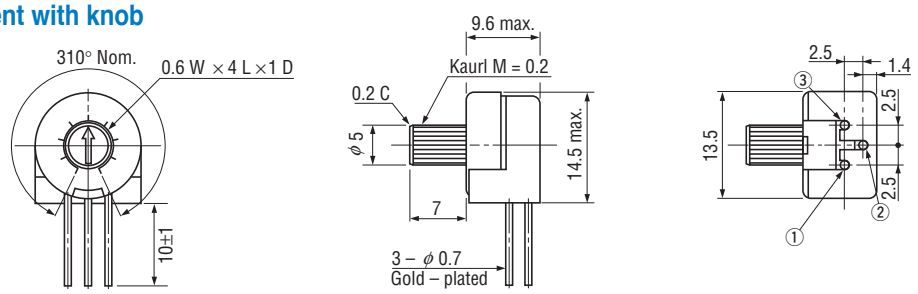

### ● λ-13TR (1113TR)
**Top adjustment with knob**



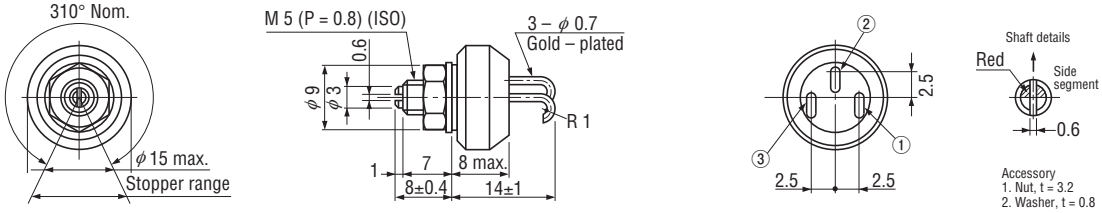

### ● λ-13S (1113S)
**Side adjustment**




### ● λ-13SR (1113SR)
**Side adjustment with knob**




### ● λ-13B (1113B)
**Panel mount**



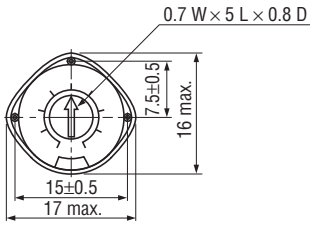

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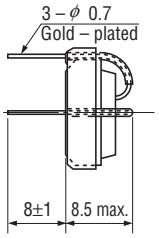
# λ-6/λ-13
# WIREWOUND TRIMMERS

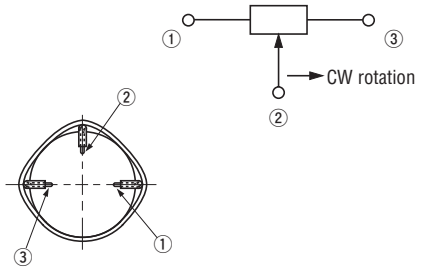
## ■OUTLINE DIMENSIONS

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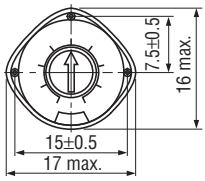
### ● λ-13F (1113F)
**Rear adjustment**

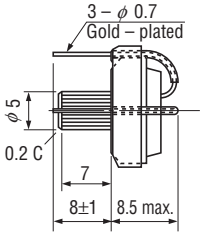


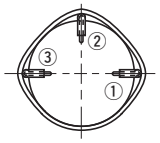




### ● λ-13FR (1113FR)
**Rear adjustment with knob**




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# OCEAN CHIPS
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**«FORSTAR»** (основан в 1998 г.)

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(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).

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