# JSR Pin Sampling Resistors

## Features

- Rated power: 1–7 W
- Tolerance: ±5%, ±2%, ±1%
- TCR down to ±40 ppm/°C
- Low inductance; good solderability
- RoHS compliant; custom versions available



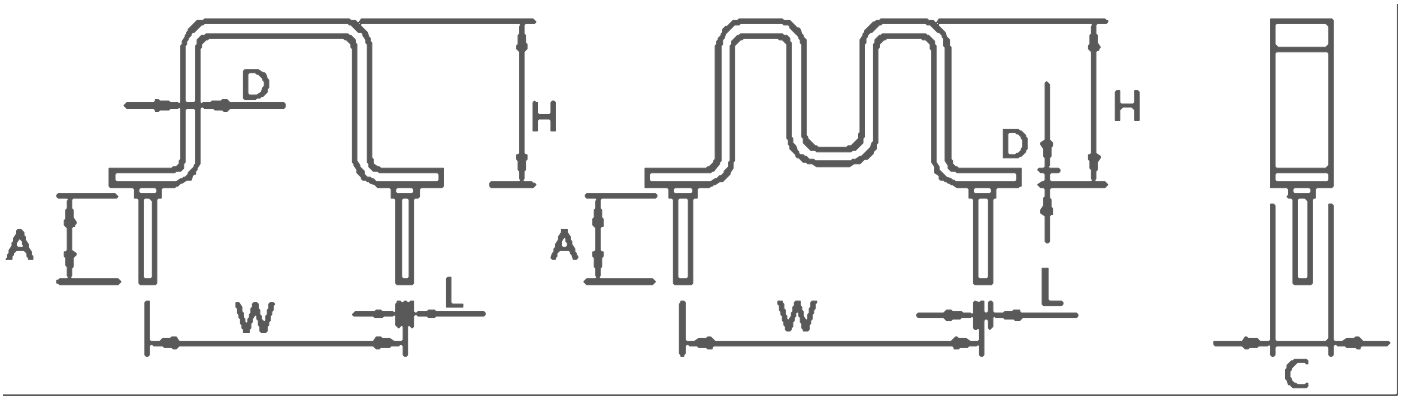
## Applications

Current sensing, drive technology, power electronics, appliance controllers, automotive electronics and communication systems.

## Standard Dimensions • mm

| C/mm | W/mm | H/mm | A/mm | L/mm |
|---|---|---|---|---|
| 2.4~3.3 | 10~35 | 7.5~30 | 4.5±0.2 | 0.8/1.0±0.1 |

## Mechanical Drawing • mm

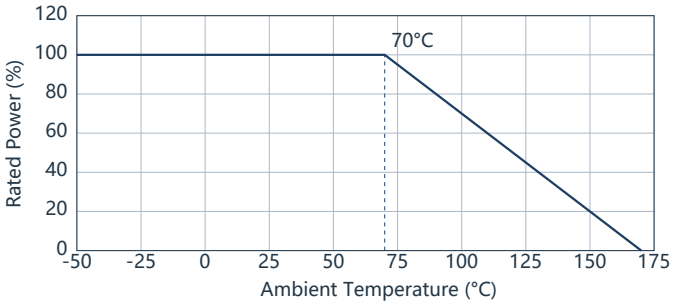


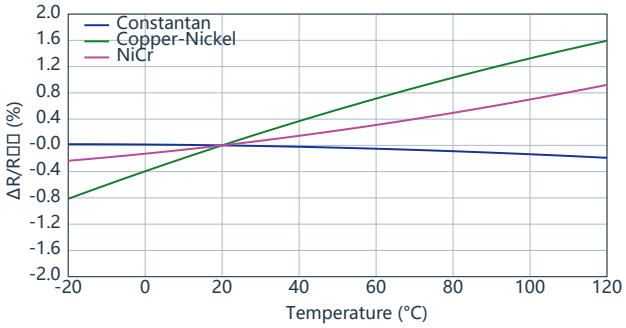

## Pitch and Resistance Ranges • mΩ

| Thickness × width (mm) | Current (A) | 10 mm | 15 mm | 20 mm | 25 mm | 30 mm | Material | TCR ppm/°C |
|---|---|---|---|---|---|---|---|---|
| 1.3×3.5 | 30 | 2.5~7 | 2.8~7.6 | 3.6~8.4 | 4~8.8 | 4.4~9 | Constantan | ±40 |
| 1.1×3.3 | 30 | 2~5.5 | 2.5~6 | 3~6.5 | 3.5~7 | 4~7.5 | Copper-Nickel | ±200 |

| Thickness × width (mm) | Current (A) | 10 mm | 15 mm | 20 mm | 25 mm | 30 mm | Material | TCR ppm/°C |
|---|---|---|---|---|---|---|---|---|
| 1.1×3.3 | 25.5 | 7~20 | 8~20 | 10~23 | 10~23 | 13~25 | NiCr | ±120 |
| 1.1×3.3 | 28 | 3~9 | 3.5~10 | 4.5~10 | 5~11 | 5.5~11 | Constantan | ±40 |
| 1.1×2.8 | 25.5 | 2.4~6.5 | 3~7 | 3.5~7.7 | 4.2~8.2 | 4.8~8.8 | Copper-Nickel | ±200 |
| 0.9×2.7 | 19 | 5~14 | 6~15 | 7.5~15 | 8.5~16 | 10~17.5 | Constantan | ±40 |
| 0.85×2.4 | 15 | 5~16 | 6~17 | 7.5~18 | 9~19 | 10~20 | Constantan | ±40 |
| 0.8×3.3 | 20 | 4~12 | 5~13 | 6~14 | 7~15 | 8~16 | Constantan | ±40 |
| 0.8×3.3 | 19 | 9~27 | 11~28 | 14~31 | 15~32 | 18~36 | NiCr | ±120 |
| 0.6×2.4 | 11.5 | 9~22 | 10~24 | 12~25 | 13~26 | 15~28 | Constantan | ±40 |
| 0.6×2.4 | 10 | 21~48 | 24~53 | 27~56 | 30~57 | 35~62 | NiCr | ±120 |
| 0.5×3.3 | 13 | 6~20 | 8~22 | 9~23 | 11~24 | 12~26 | Constantan | ±40 |
| 0.5×3.3 | 11 | 14~44 | 16~47 | 20~50 | 23~53 | 27~58 | NiCr | ±120 |
| 0.4×3.3 | 10 | 8~25 | 10~27 | 12~29 | 14~31 | 16~33 | Constantan | ±40 |
| 0.4×3.3 | 9 | 21~56 | 25~60 | 29~65 | 33~69 | 38~74 | NiCr | ±120 |
| 0.4×2.4 | 7.5 | 13~35 | 15~37.5 | 17.5~40 | 20~42 | 23~45 | Constantan | ±40 |
| 0.4×2.4 | 7 | 29~78 | 34~84 | 40~90 | 45~95 | 51~101 | NiCr | ±120 |
| 0.36×2.4 | 6 | 28~80 | 33~87 | 40~94 | 48~100 | 55~107 | NiCr | ±120 |
| 0.3×3.3 | 8 | 9~43 | 12~46 | 14~48 | 16~50 | 19~53 | Constantan | ±40 |
| 0.3×3 | 7 | 10~45 | 13~50 | 15~53 | 18~56 | 21~58 | Constantan | ±40 |

## Performance • Derating & TCR (20–120°C)

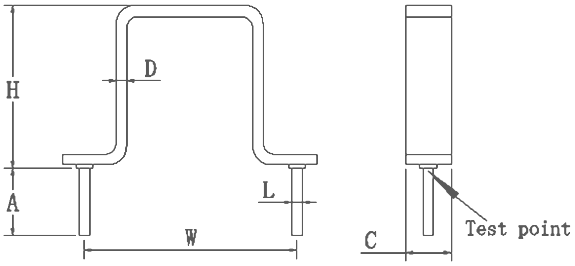



## Materials & Resistivity

| Symbol | Materials | Resistance Rate |
|---|---|---|
| 1 | Constantan | 48μΩ．cm |
| n | NiCr | 108μΩ．cm |
| 6 | Copper-Nickel | 30μΩ．cm |
| c | Tinned copper | / |

## Typical Product Dimensions & Performance




| Item | Parameter |
|---|---|
| Material | Constantan/Tinned Copper Tinned Copper |
| A | 4.5mm±0.5mm |
| H | 7.4mm±2.0mm |
| W | 10mm±0.5mm |
| C | 3.3mm±0.2mm |
| D | 1.1mm±0.1mm |
| L | 0.8mm±0.1mm |
| Value | 3mΩ±1% |
| rated power | 3W |
| Mark | R003F |
| overcurrent | 28A |
| operating temperature | -65℃~170℃ |

## Ordering Information

Example: J 3 -10 -3 F -t -y. JSR-J/JSR-Jm; 3 W; 10 mm pitch; 3 mΩ; J ±5%, G ±2%, F ±1%; t: material option; y: marking option.

Pitch, overall height and rated current/power may be customized; contact INLANX for special versions.

## Endurance Tests

| Iterms | Limits | Additional Requirements |
|---|---|---|
| Short time overload | within ±1%<br>No evidence of mechanical damage. | Rated power X 5 times, 5s |
| Terminal strength | No evidence of mechanical damage. | Line thickness > 0.5mm, 13kg/10sec. Car application rules<br>Line thickness > 0.5mm, 10kg/10sec . Non-vehicle application<br>Line thickness ≤0.5mm, pull through flat wire shall prevail. |
| vibration | Resistance deviation < ±0.5%, no appearance damage | The frequency was from 10Hz to 2000Hz within 1min. The test was conducted in three directions of 10g vibration magnitude, X-Y-Z, and 24H in each direction. |
| Resistance to soldering heat | within ±0.5%<br>No evidence of mechanical damage. | 260±5℃, 10±1sAfter test leave for 3h. |
| Solderability | Covered with new solder by 95% at least. | Test temperature of solder: 245±5℃<br>Dipping time in solder: 5±0.5s |
| Temperature cycle | within ±1%<br>No evidence of mechanical damage. | -55°C ~ +125°C, 1000 circulation |
| Biased Humidity | within ±1% | 1000hrs 85℃/85%RH。Note:Specified conditions:10% of operating power. |
| Load life | within ±1% | Rated voltage (90 min ON, 30 min OFF) |

Bulk, with inner and outer packaging. Revision: A1.0 / 21-Sep-2022 / First issue