# BWL

Precision current sense resistors

## Product Features

Low resistance, high precision, fully molded construction. Epoxy encapsulation provides high stability, moisture resistance and low noise.

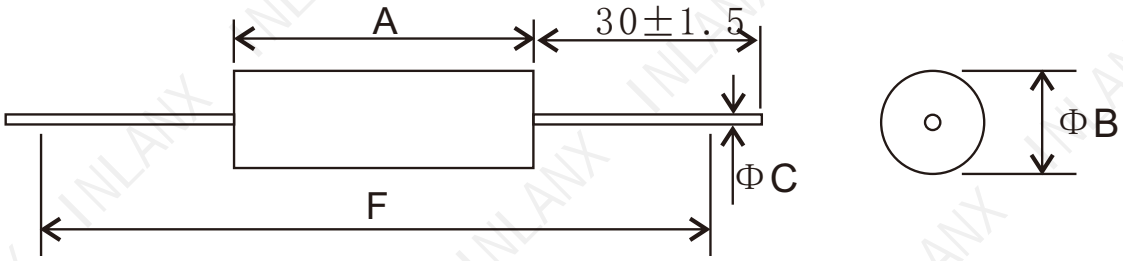
**Temperature range:** -65°C~175°C

**Temperature coefficient:** Peak can reach +2PPM

**Applications:** Test and measurement equipment, instrumentation, industrial and medical uses, drilling, aviation and aerospace, naval vessels and military use.

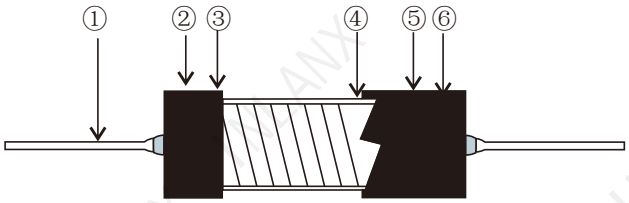


## Dimensions




| Type | Power (W) | Dimensions (mm) | | | Test point |
|---|---|---|---|---|---|
| | | A±0.25 | ΦB±0.25 | ΦC | F |
| BWL05 | 0.5 | 7.0 | 3.0 | 0.8 | 27.0 |
| BWL10 | 1.0 | 11.0 | 3.0 | 0.8 | 31.0 |
| BWL20 | 2.0 | 11.0 | 3.0 | 0.8 | 31.0 |
| BWL30 | 3.0 | 14.0 | 5.2 | 0.8 | 34.0 |
| BWL40 | 4.0 | 18.6 | 6.5 | 0.8 | 38.0 |
| BWL50 | 5.0 | 24.0 | 8.4 | 1.0 | 44.0 |
| BWL70 | 7.0 | 27.0 | 9.5 | 1.0 | 47.0 |
| BWL100 | 10.0 | 46.5 | 10.0 | 1.0 | 66.0 |

## Construction




| No. | Part |
|---|---|
| 1 | lead wire |
| 2 | cap |
| 3 | cermic base |
| 4 | wire wound |
| 5 | marking |
| 6 | full moded construction |

## Power, Resistance Range and Withstand Voltage

| Type | Power (W) | Resistance range (Ω) | |
|---|---|---|---|
| | | MIN | MAX |
| BWL05 | 0.5 | R005 | 1K |
| BWL10 | 1.0 | R005 | 1K |
| BWL20 | 2.0 | R005 | 10K |
| BWL30 | 3.0 | R005 | 10K |
| BWL40 | 4.0 | R005 | 15K |
| BWL50 | 5.0 | R005 | 24K |
| BWL70 | 7.0 | R005 | 24K |
| BWL100 | 10.0 | R01 | 39K |

## Ordering Information

| BWL | 05 | 0.5% | R01 | ±50ppm | Box |
|---|---|---|---|---|---|
| Type | Rated Power | Tolerance | Resistance (Ω) | TCR | Packaging |

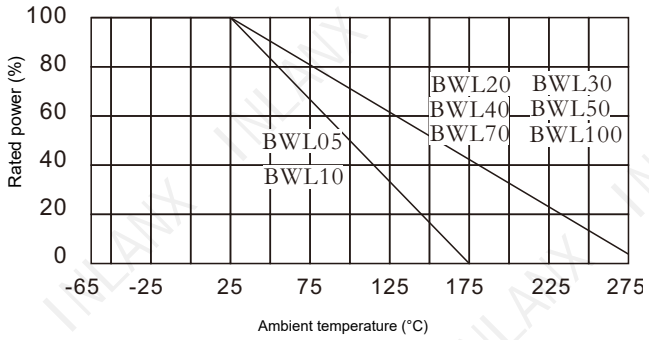
| Type | Rated Power | Tolerance | Resistance (Ω) | TCR | Packaging |
|---|---|---|---|---|---|
| BWL | 05:0.5W<br>10:1.0W<br>20:2.0W<br>30:3.0W<br>40:4.0W<br>50:5.0W<br>100:10.0W | ±0.5%<br>±1%<br>±5% | RO1=0.01Ω | ±25ppm/°C<br>±50ppm/°C<br>±100ppm/°C<br>±250ppm/°C | Box |

Packaging：Plastic recloseablebags(moq：100PCS)

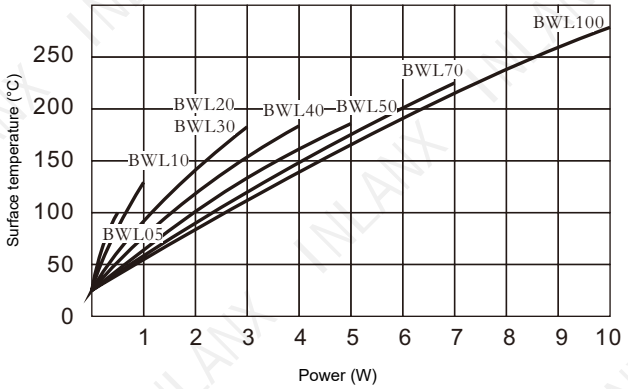
## Reference Standards

JIS C 5201-1

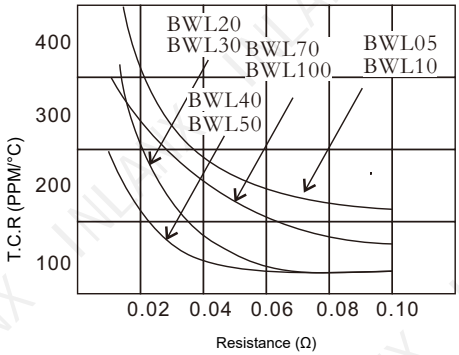
## Derating Curve




## Surface Temperature vs. Power




## Temperature vs. Resistance




## Peformance

| Test Item | Specifications | Test Methods (JIS C 5201-1) |
|---|---|---|
| Short Time Overload | ≤±(0.5%R+0.0005Ω) | 5 x rated power 5 s |
| Temperature shock | ≤±(0.20%R+0.0005Ω) | -65 °C to + 125 °C, 5 cycles, 15 min at each extreme |
| Low tempoperation | ≤±(0.20%R+0.0005Ω) | -65℃ for 24h |
| Dielectric Withstanding Voltage | ≤±(0.1%R+0.0005Ω) | 1000VRMS,1Min |
| Leaching | ≤±(0.1%R+0.0005Ω) | 350℃,3.5s |
| Moisture Resistance | ≤±(0.2%R+0.0005Ω) | 40℃,RH93%,21D |
| Load life | ≤±(1.0%R+0.0005Ω) | 1000h at rated power, +70℃,1.5h “ON”,0.5h” OFF” |
| Solderability | ≤±(0.25%R+0.0005Ω) | IEC68-2-20(1968)solder bath method，235±5℃，2s |
| Vibration High Frequency | ≤±(0.1%R+0.0005Ω) | Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each |