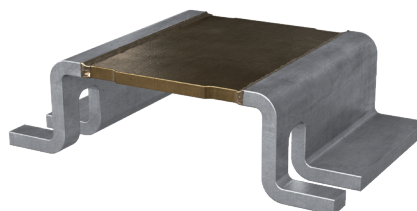


BVR-PW (4026)

ISA-WELD® PRECISION RESISTOR



FEATURES

- Power rating up to 5 W
- Heavy copper connectors
- Excellent long-term stability
- Listed in European Preferred Parts List (EPPL) in Part 2
- SnPb tinned contacts

APPLICATIONS

- Aerospace & Defense
- Current sensor for power hybrid modules
- High current measurement in DC/DC front-end converters and power distribution units

Technical data *

| | | | |
|---------------------------------------------------------------------------------|-------|----------------------|---------|
| Resistance values | mOhm | 0.2 to 3 | |
| Tolerance | % | 0.5 / 1 | |
| Temperature coefficient | | <1 mOhm | ≥1 mOhm |
| -55 °C to +22 °C | | -100; +0 | -60; +0 |
| +22 °C to +170 °C | ppm/K | ±30 | ±30 |
| +22 °C to +60 °C | | ±20 | ±50 |
| Applicable temperature range | °C | -65 to +170 | |
| Power rating P_{100 °C} | W | up to 5 | |
| Internal heat resistance (R_{thi}) | K/W | from 4 | |
| Inductance | nH | <3 | |
| Stability (nominal load) deviation after 2000h, T_K = Terminal temperature | % | <0.5 ($T_K=100$ °C) | |

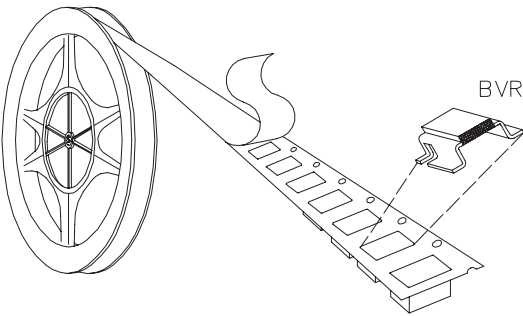
*For detailed information see table on page 2

Recommended solder profile

| | | | | |
|-----------------------|-----|------|-----|-----|
| Reflow-, IR-soldering | | | | |
| Temperature | °C | 260 | 255 | 217 |
| Time | sec | peak | 40 | 90 |

Packaging information

| | | |
|------------------|------|----------------|
| Specification | | DIN EN 60286-3 |
| Tape width | mm | 24 |
| Reel size | inch | 13 |
| Form of delivery | | |
| Tape | pcs | up to 250 |
| Tape & Reel | pcs | >250 |



Available standard resistance values and tolerances *

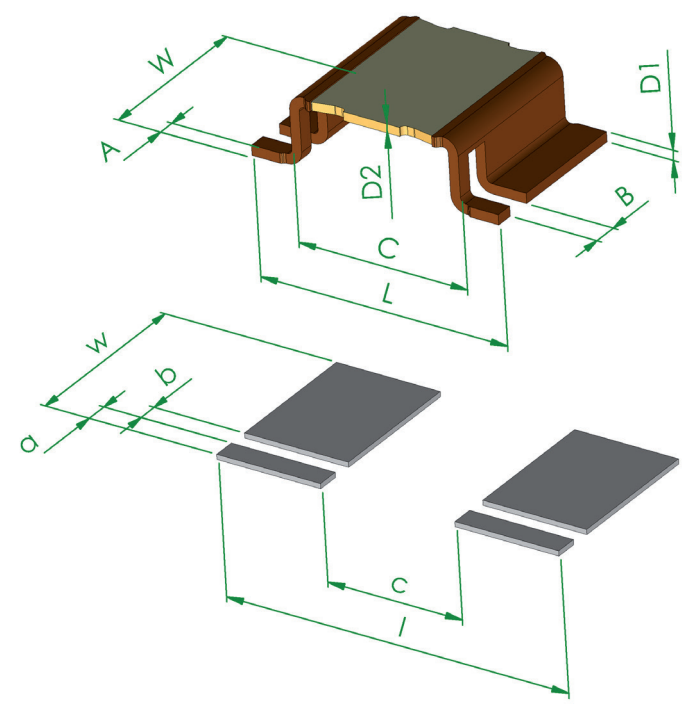
| Type | Value [mΩ] | R_{thi} [K/W] | $P_{T_K > 100^{\circ}C}$ $T_K = 170^{\circ}C - (R_{thi} \times P)$ |
|--------------------|------------|-----------------|-----------------------------------------------------------------------|
| BVR-Z-R0002-0.5-PW | 0.2 | 4 | 5 |
| BVR-Z-R0002-1.0-PW | 0.2 | 4 | 5 |
| BVR-Z-R0003-0.5-PW | 0.3 | 5 | 5 |
| BVR-Z-R0003-1.0-PW | 0.3 | 5 | 5 |
| BVR-Z-R0004-0.5-PW | 0.4 | 7 | 5 |
| BVR-Z-R0004-1.0-PW | 0.4 | 7 | 5 |
| BVR-Z-R0005-0.5-PW | 0.5 | 8 | 5 |
| BVR-Z-R0005-1.0-PW | 0.5 | 8 | 5 |
| BVR-I-R001-0.5-PW | 1 | 9 | 5 |
| BVR-I-R001-1.0-PW | 1 | 9 | 5 |
| BVR-I-R002-0.5-PW | 2 | 14 | 4 |
| BVR-I-R002-1.0-PW | 2 | 14 | 4 |
| BVR-I-R003-0.5-PW | 3 | 21 | 3 |
| BVR-I-R003-1.0-PW | 3 | 21 | 3 |

Material type I=ISA0HM®, Z=ZERANIN®

Ordering code

| | |
|----------------------------|-------------------------------------------------------|
| BVR - Z - R0005 - 1.0 - PW | |
| | SnPb tinned contacts, space grade |
| | Tolerance |
| | Resistance value [Ohm] / „R” represents decimal point |
| | Material (ZERANIN®) |
| | Type |

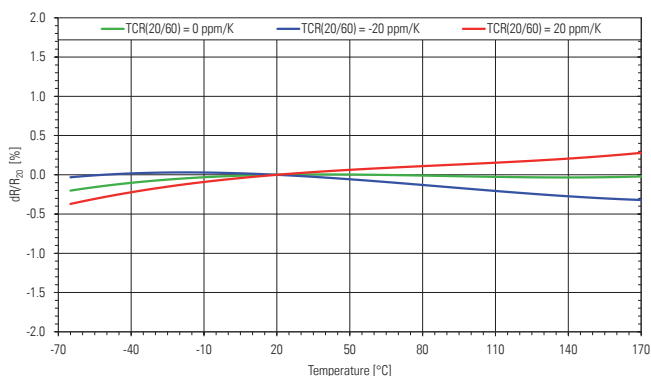
Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm] // Z-YF-148e



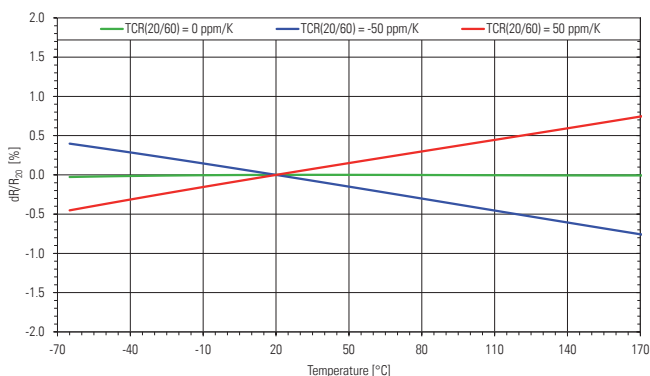
| Type: | A | B | C | D1 | D2 | L | W |
|-------------|----------|----------|-----------|-----------|-----------|-----------|----------------|
| BVR-Z-R0002 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.4 ±0.1 | 1.2 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-Z-R0003 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.4 ±0.1 | 0.85 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-Z-R0004 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.55 ±0.1 | 0.55 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-Z-R0005 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.4 ±0.1 | 0.42 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-I-R001 | 0.7 ±0.1 | 1.0 ±0.1 | 7.42 ±0.2 | 0.66 ±0.1 | 1.1 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-I-R002 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.4 ±0.1 | 0.55 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |
| BVR-I-R003 | 0.7 ±0.1 | 1.0 ±0.1 | 6.9 ±0.2 | 0.4 ±0.1 | 0.36 ±0.1 | 10.1 ±0.2 | 6.6 +0.35/-0.2 |

| Solder Pad type: | a | b | c | l | w |
|------------------|-----|-----|-----|------|-----|
| BVR | 0.9 | 0.8 | 5.5 | 10.6 | 7.3 |

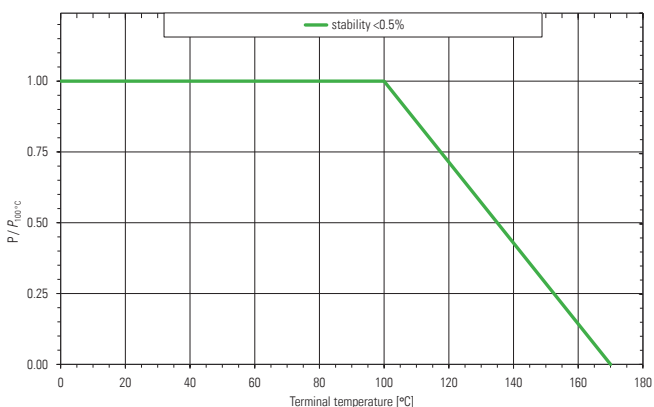
Temperature dependence of the electrical resistance of ZERANIN® resistors



Temperature dependence of the electrical resistance of ISAQHM resistors



Power derating curve at 100°C



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