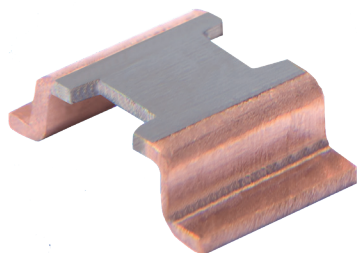




## ISA-WELD® // PRECISION RESISTORS



## BVZ // Size 4026



## Features

- Heavy copper connectors
- Excellent long-term stability
- Ideal suited for mounting on DBC / IMS substrate
- Max. solder temperature up to 350°C / 20 min.
- RoHS 2011/65/EU compliant
- Temperature coefficient (20-60 °C) of resistance material: <30 ppm/K



## Applications

- Current sensor for power hybrid applications
- High current applications for the automotive market
- Frequency converters
- Power modules

## Technical data

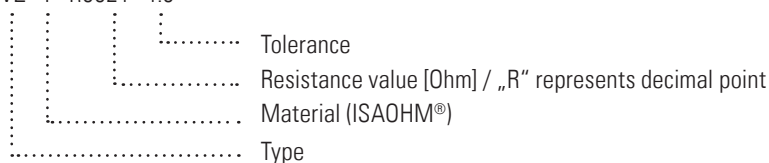
Resistance values	<b>mOhm</b>	0.525 / 0.77 / 1 / 1.5 / 2.4 / 3
Tolerance	<b>%</b>	1 / 2 / 5
Applicable temperature range	<b>°C</b>	-65 to +170
Power rating <b>P<sub>100 °C</sub></b>	<b>W</b>	up to 8
Power rating <b>P<sub>70 °C</sub></b>	<b>W</b>	up to 13
Max. temperature of resistance material	<b>°C</b>	250
Inductance	<b>nH</b>	<3
Stability (at rated power) deviation after 2000h, T <sub>K</sub> = Terminal temperature		<0.5 % (T <sub>K</sub> =100 °C) <1.0 % (T <sub>K</sub> =130 °C)

Type	Value [mΩ]	R <sub>thi</sub> [K/W]	TCR [ppm/K]	P <sub>100 °C</sub> [W]	P <sub>70 °C</sub> [W]
BVZ-Z-R000525	0.525	5	<320	8	13
BVZ-M-R00077	0.77	8	<230	8	10
BVZ-I-R001	1.0	8	<150	5	7
BVZ-I-R0015	1.5	12	<110	4	6
BVZ-I-R0024	2.4	20	<60	3	5
BVZ-I-R003	3.0	21	<60	3	5

Material type I=ISAOHM®, M=MANGANIN®, Z=ZERANIN®

## Ordering code

BVZ - I - R0024 - 1.0





**BVZ // Size 4026**

**Recommended solder profile**

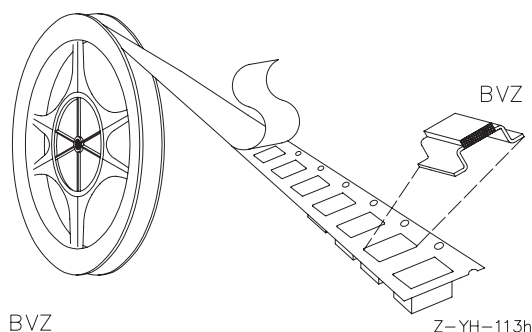
Reflow-, IR-soldering

Temperature	°C	260	255	217
Time	sec	peak	40	90

**Alternative solder profile**

H2 soldering under vacuum

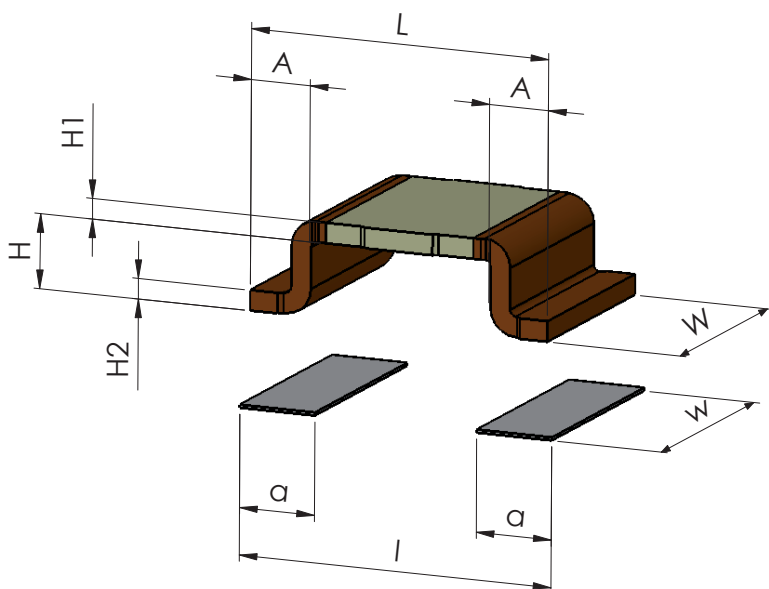
Temperature	°C	350
Time	min	20



**Tape and reel information**

Specification	DIN EN 60286-3	
Tape width	mm	24
Reel size	inch	13
Parts per reel	pcs	1400
Packaging weight	g	576

**Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm] // Z-YH-473**



	L	W	A	H	H1	H2
BVZ-Z-R000525	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.42 ±0.1	0.42 ±0.05
BVZ-M-R00077	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.42 ±0.1	0.42 ±0.05
BVZ-I-R001	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	1.1 ±0.1	0.66 ±0.05
BVZ-I-R0015	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.66 ±0.1	0.66 ±0.05
BVZ-I-R0024	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.66 ±0.1	0.66 ±0.05
BVZ-I-R003	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.35 ±0.1	0.4 ±0.05
BVZ-I-R004	10.1 ±0.2	6.9 0/-0.1	2 ±0.1	2.4 ±0.1	0.35 ±0.1	0.4 ±0.05

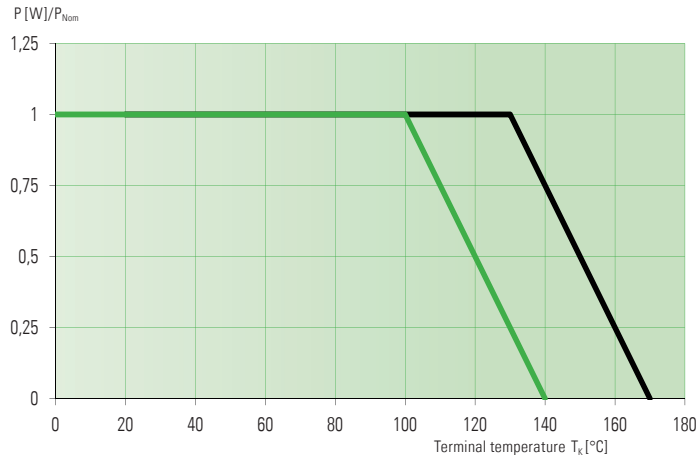
solder pad	l	w	a
BVZ	10.6	7.3	2.55



**BVZ // Size 4026**

**Power derating curve at 100 °C**

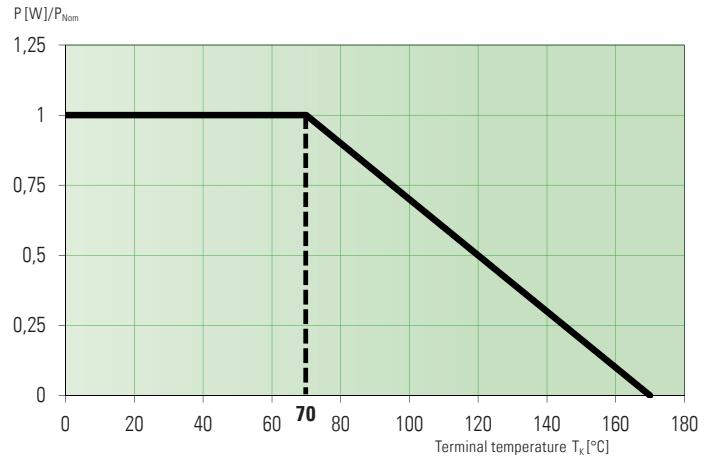
Example: BVZ-Z-R000525



— Stability < 1.0% (in covered condition)  
 — Stability < 0.5%

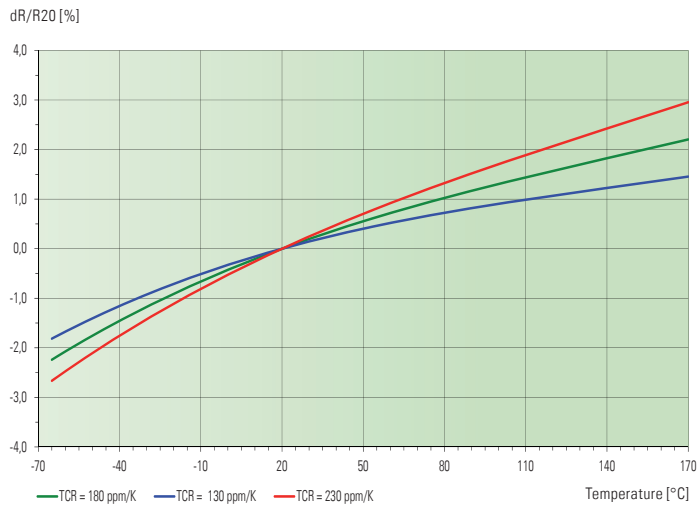
**Power derating curve at 70 °C**

Example: BVZ-I-R001

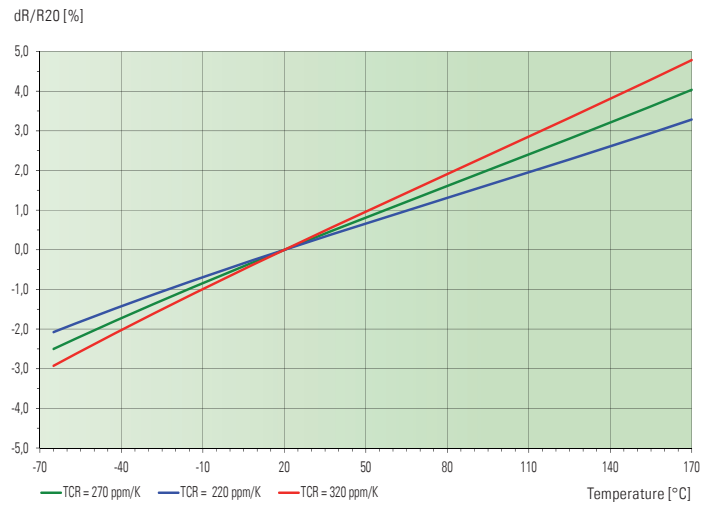


— Stability < 1.0% (in covered condition)

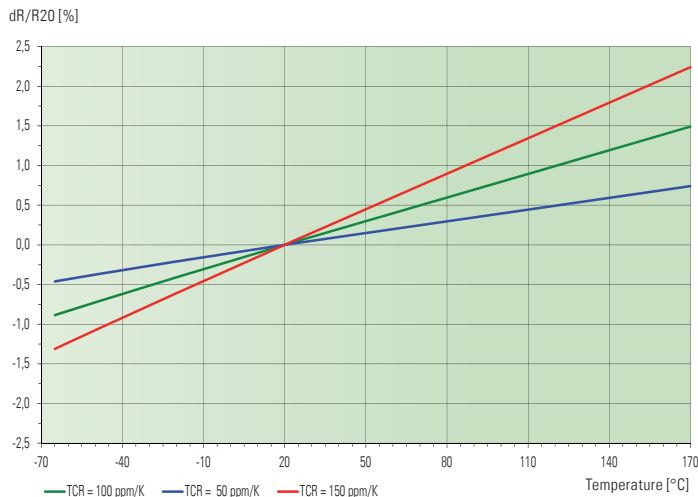
**Temperature dependence of the electrical resistance of MANGANIN® resistors**



**Temperature dependence of the electrical resistance of ZERANIN® resistors**



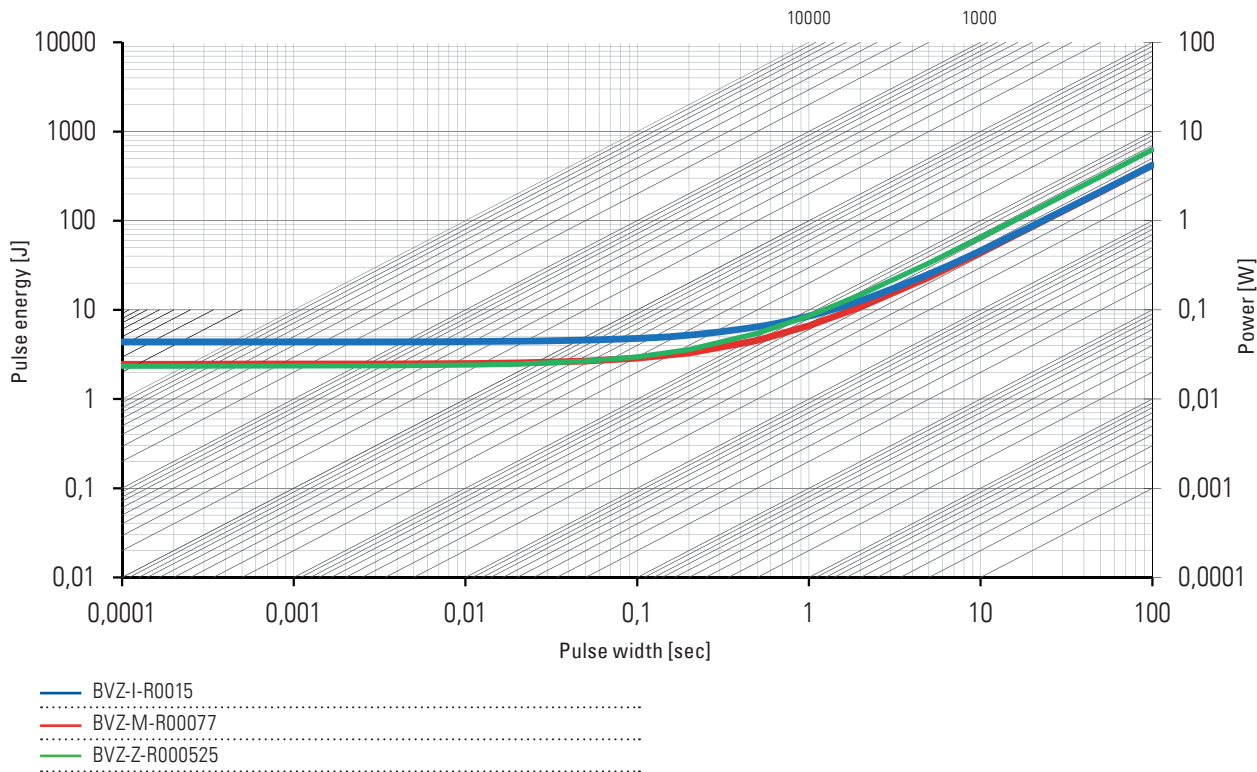
**Temperature dependence of the electrical resistance of ISAOHM® resistors**





**BVZ // Size 4026**

**Maximum pulse energy respectively pulse power for permanent operation**



**Specification**

Parameters	Test conditions	Specified values
Temperature Cycling	2000 cycles (-55 °C to +150 °C)	±0.5 %
Low Temperature Storage and Operation	-65 °C for 250 h	±0.1 %
Resistance to Soldering Heat	260 °C for 10 sec / 8h steam aging	n.a.
Moisture Resistance	MIL-STD-202 method 106	±0.1 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	10 g, 10-2000 Hz, 24 h each axis	±0.2 %
Operational Life	2000 h, T <sub>k</sub> max at rated power	±1.0 %, T <sub>k</sub> = 130 °C
High Temperature Exposure	2000 h / 170 °C	±1.0 % (in covered condition)*
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5 %

\* for MANGANIN® and ZERANIN®30

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