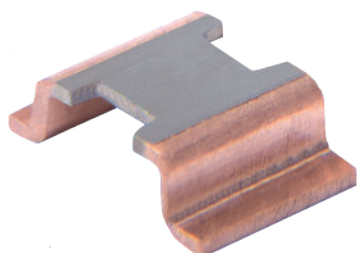


ISA-WELD® // PRECISION RESISTORS

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

Type	Value [mΩ]	R _{thi} [K/W]	TCR [ppm/K]	P _{100 °C} [W]	P _{70 °C} [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

.....	Tolerance
.....	Resistance value [Ohm] / „R“ represents decimal point
.....	Material (ISAOHM®)
.....	Type

**BVZ // Size 4026****Recommended solder profile**

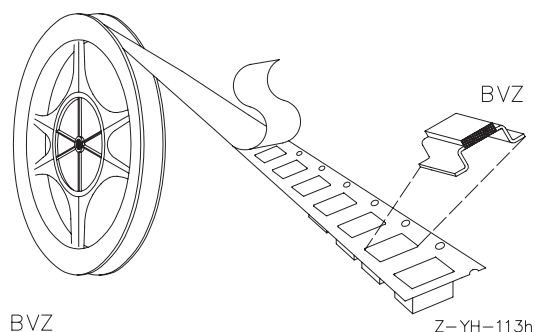
Reflow-, IR-soldering

Temperature	°C	260	255	217
Time	sec	peak	40	90

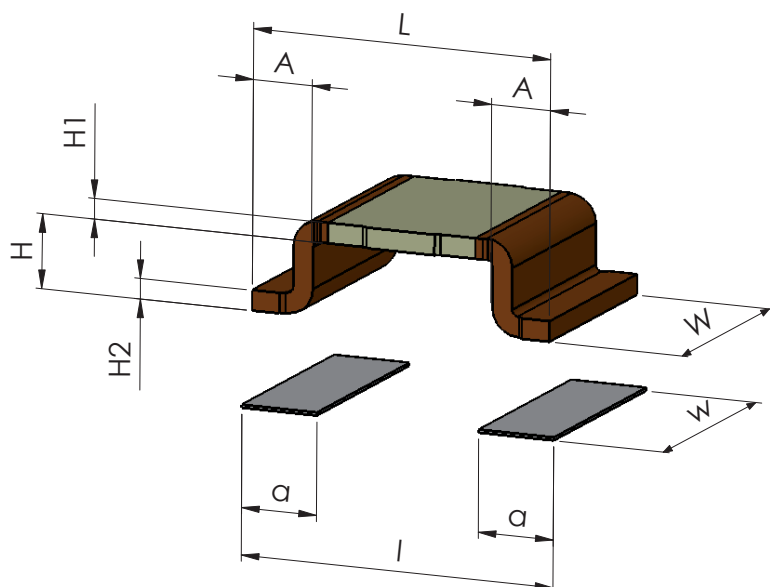
Alternative solder profile

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

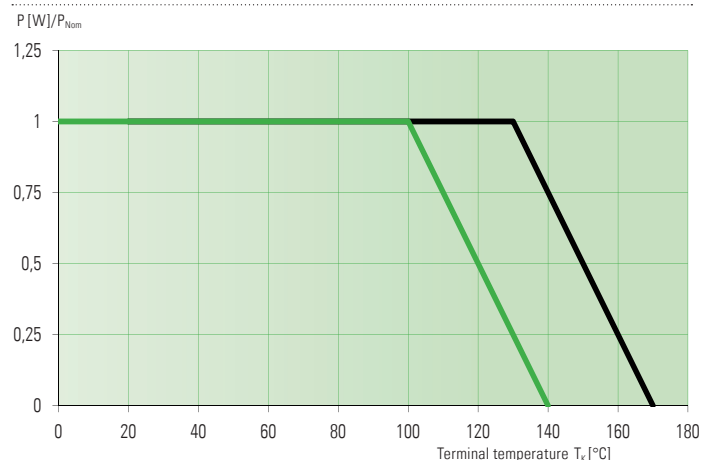
solder pad	l	w	a
BVZ	10.6	7.3	2.55



BVZ // Size 4026

Power derating curve at 100 °C

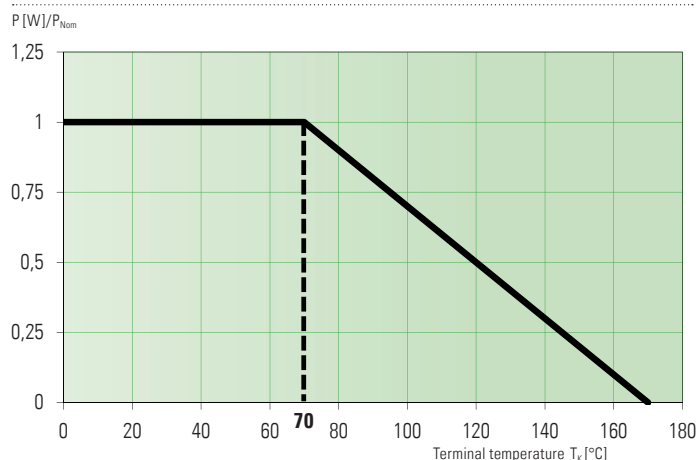
Example: BVZ-Z-R000525



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

Power derating curve at 70 °C

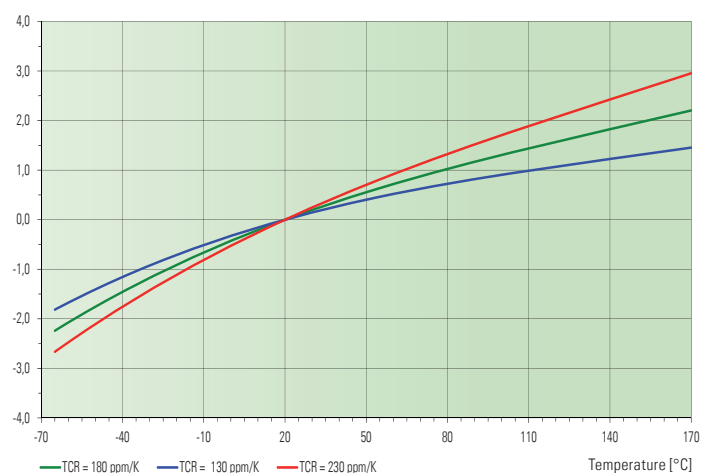
Example: BVZ-I-R001



— Stability < 1.0% (in covered condition)

Temperature dependence of the electrical resistance of MANGANIN® resistors

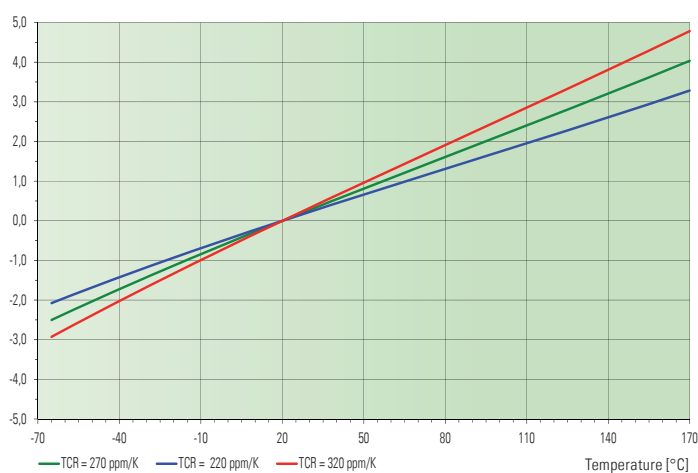
dR/R20 [%]



— TCR = 180 ppm/K — TCR = 130 ppm/K — TCR = 230 ppm/K

Temperature dependence of the electrical resistance of ZERANIN® resistors

dR/R20 [%]



— TCR = 270 ppm/K — TCR = 220 ppm/K — TCR = 320 ppm/K

Temperature dependence of the electrical resistance of ISAOHM® resistors

dR/R20 [%]

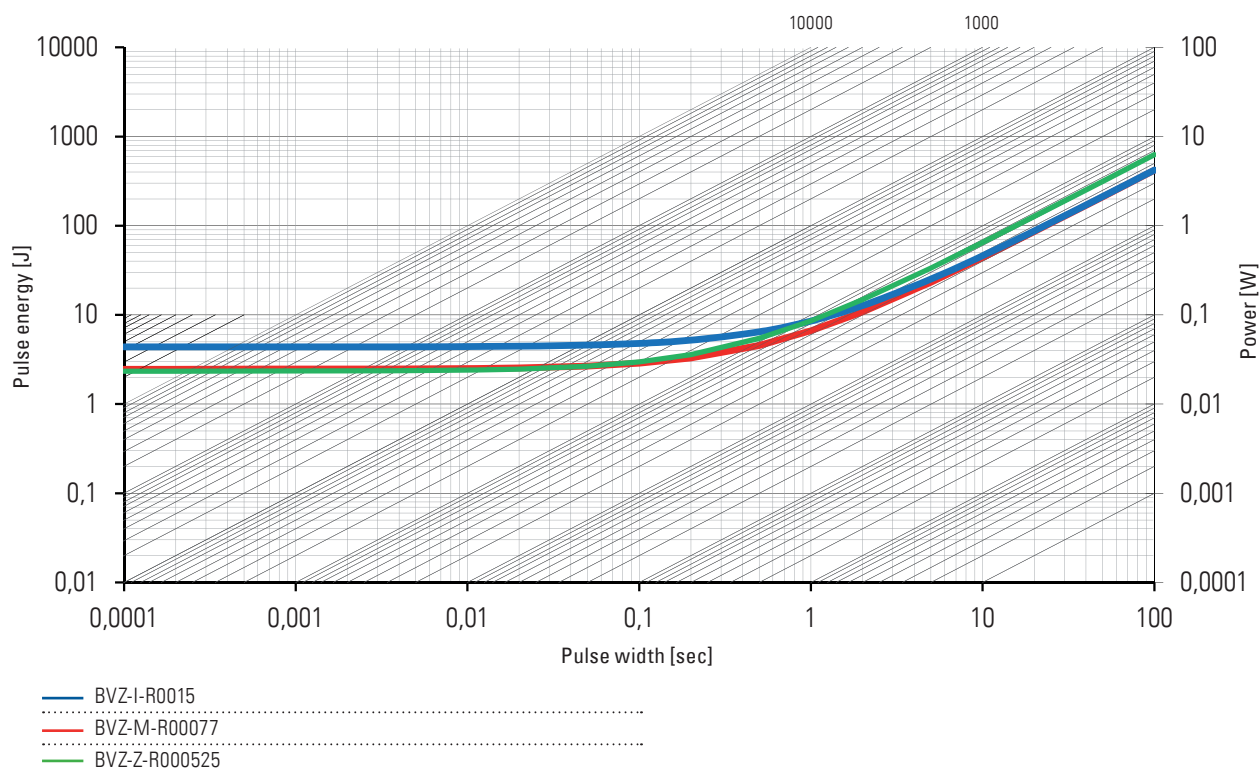


— TCR = 100 ppm/K — TCR = 50 ppm/K — TCR = 150 ppm/K



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_k max at rated power	±1.0 %, $T_k = 130$ °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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