ISABELLENHÜTTE
Innovation by Tradition

ISA-WELD® // PRECISION RESISTORS

BVF // Size 1213

Features

- Constant current up to 55 A (1 mOhm)
- 3 W power rating up to 145 °C
- Two terminal configuration
- Excellent long-term stability
- High application temperature range -65 to +175 °C
- RoHS 2011/65/EU compliant
- Max. solder temperature up to 350 °C / 30 sec
- AEC-Q200 qualified

RoHS

Applications

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

Technical data

Resistance values	**mOhm**	1	1.5
Material		NOVENTIN®	
Tolerance	**%**	1 / 5	
Temperature coefficient (20-60 °C)	**ppm/K**	<70	
Applicable temperature range	**°C**	-65 to +175	
Power rating	**W**	3	2
Internal heat resistance (R_{thi})	**K/W**	10	15
Inductance	**nH**	<0.5	
Stability (at rated power) deviation after 2000h, T_K = Terminal temperature		<0.5% (T_K=110 °C) <1.0% (T_K=145 °C)	<0.5% (T_K=110 °C) <1.0% (T_K=145 °C)

Ordering code

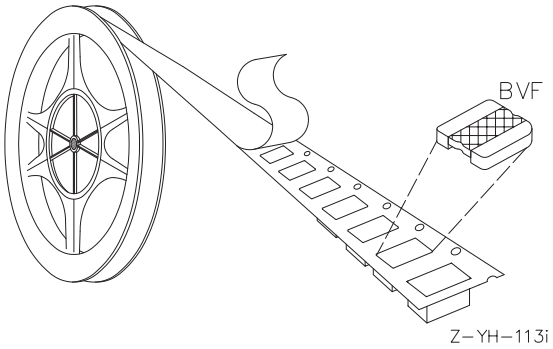
BVF - V - R001 - 1.0

- 1.0 ..... Tolerance
- R001 ..... Resistance value [Ohm] / „R“ represents decimal point
- V ..... Material (NOVENTIN®)
- BVF ..... Type

BVF // Size 1213

Recommended solder profile

Reflow- and IR-soldering				
Temperature	**°C**	260	255	217
Time	**sec**	peak	40	90



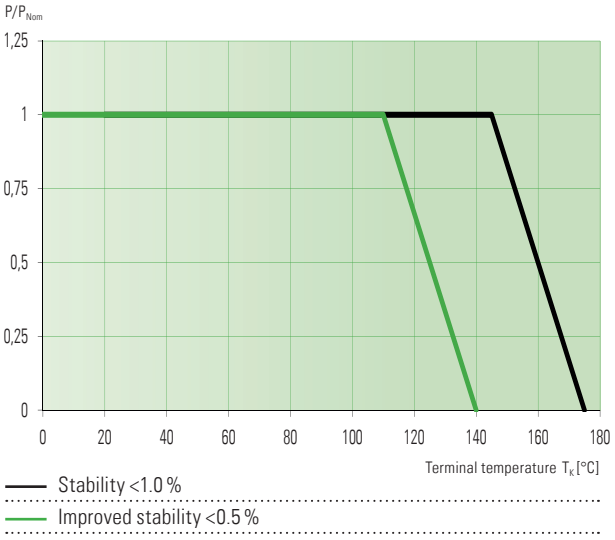
Tape and reel information

Specification		DIN EN 60286-3
Tape width	**mm**	12
Parts per reel	**pcs**	5000

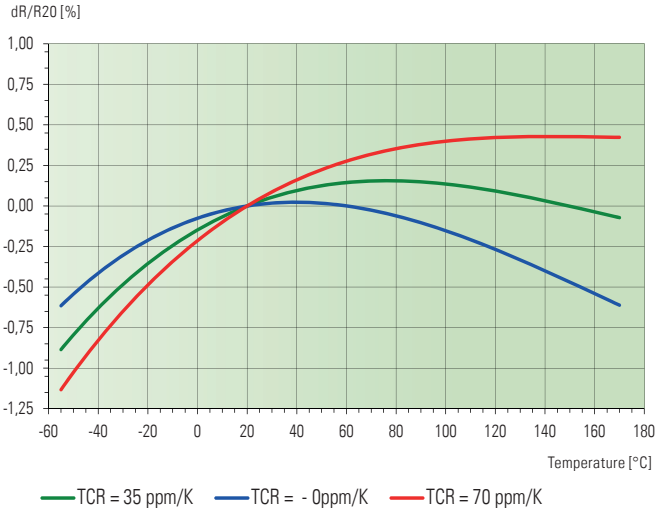
Specification

Parameters	**Test conditions**	**Specified values**
Temperature Cycling	2000 cycles (-55 °C to +150 °C)	±1.0 %
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	±0.2 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	10 g, 10-2000 Hz	±0.2 %
Operational Life	2000 h, T_K max at rated power	±1.0 %, T_K = 145 °C
High Temperature Exposure	2000 h / 175 °C	±1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5 %

Power derating curve: 110 °C / 145 °C

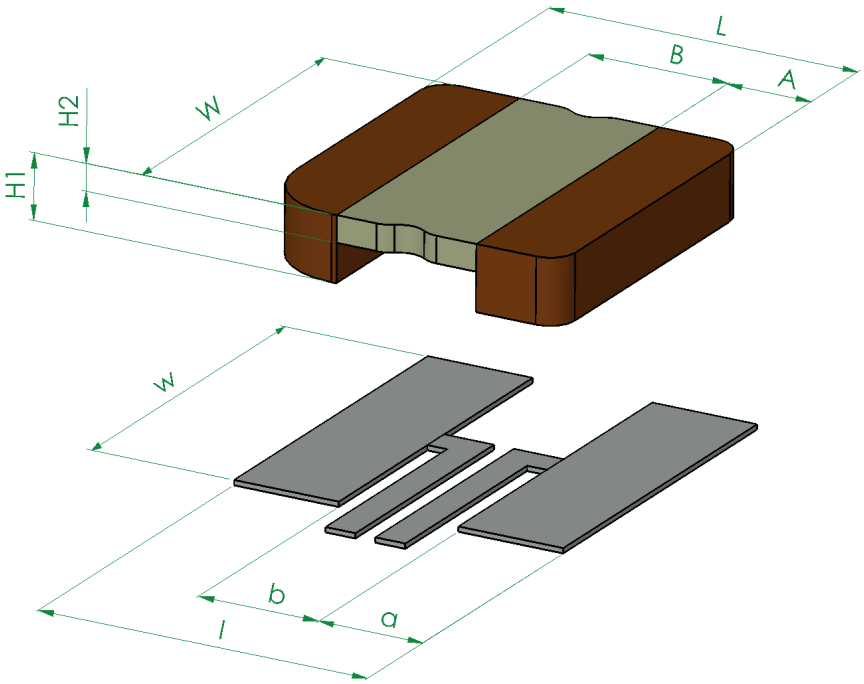


Temperature dependence of the electrical resistance of BVF-V-R001



BVF // Size 1213

Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm]

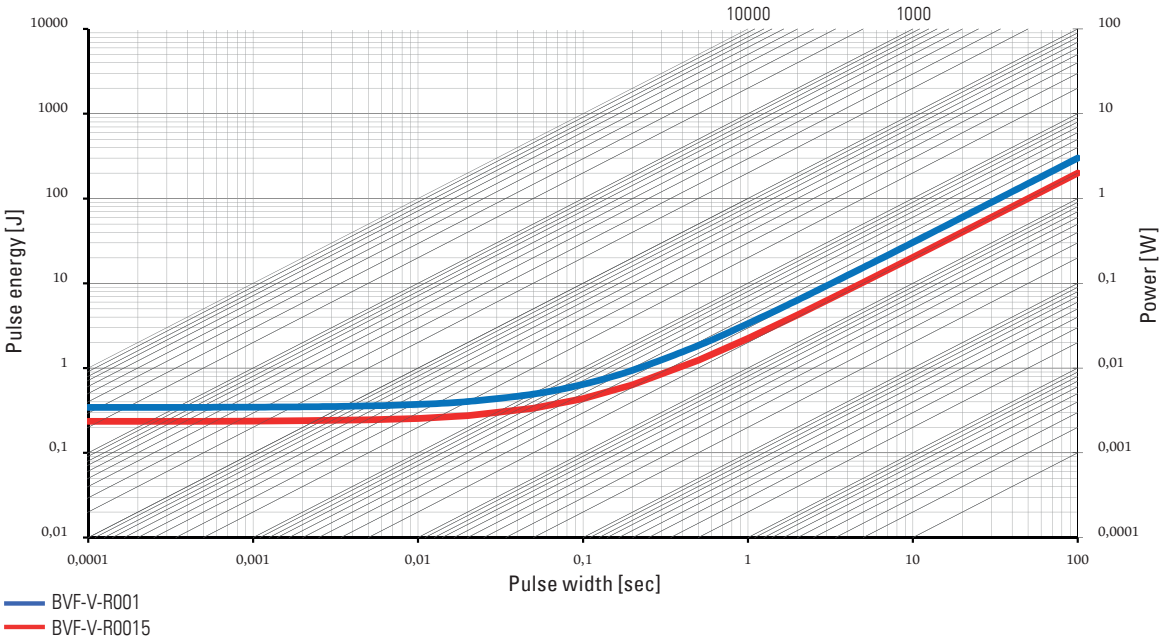


type:	L	W	H1	H2	A	B
BVF-V-R001-1.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.38 ±0.2	0.85 ±0.2	1.4 ±0.2
BVF-V-R0015-1.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.26 ±0.2	0.85 ±0.2	1.4 ±0.2
BVF-V-R0015-5.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.26 ±0.2	0.85 ±0.2	1.4 ±0.2

solder pad type:	l	w	a	b
BVF	3.4	3.6	1.05	1.3

BVF // Size 1213

Maximum pulse energy respectively pulse power for permanent operation



Disclaimer // All products, product specifications and data are subject to change without notice.

The product specifications do not expand or otherwise modify Isabellenhütte's terms and conditions of sale, including but not limited to, the warranty expressed therein. Isabellenhütte makes no warranty, representation or guarantee other than as set forth in its terms and conditions of sale.

Information provided in datasheets and/or specifications may vary from actual results in different applications. Any statements made by Isabellenhütte regarding the suitability of products for certain types of applications are based on its knowledge of typical requirements that are often placed on its products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in the application intended.

No license, express or implied, or otherwise, to any intellectual property rights is granted by this document.

Any and all liability arising out of the application or use of any product shall be as set forth in Isabellenhütte's terms and conditions of sale.