



## 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



#### 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>	1	1.5
Material		NOVENTIN®	
Tolerance	<b>%</b>	1 / 5	
Temperature coefficient (20-60 °C)	<b>ppm/K</b>	<70	
Applicable temperature range	<b>°C</b>	-65 to +175	
Power rating	<b>W</b>	3	2
Internal heat resistance (R <sub>thi</sub> )	<b>K/W</b>	10	15
Inductance	<b>nH</b>	<0.5	
Stability (at rated power) deviation after 2000h, T <sub>k</sub> = Terminal temperature		<0.5% (T <sub>k</sub> =110 °C) <1.0% (T <sub>k</sub> =145 °C)	<0.5% (T <sub>k</sub> =110 °C) <1.0% (T <sub>k</sub> =145 °C)

#### Ordering code

BVF - V - R001 - 1.0

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



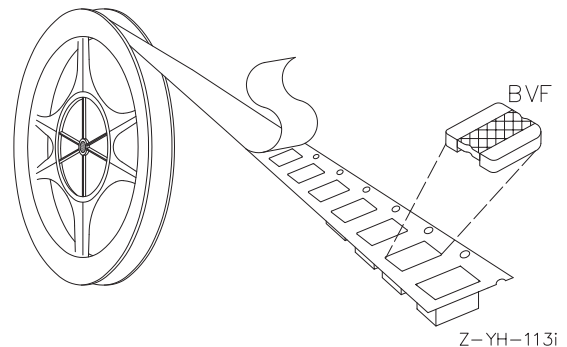
## BVF // Size 1213

### Recommended solder profile

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

### Tape and reel information

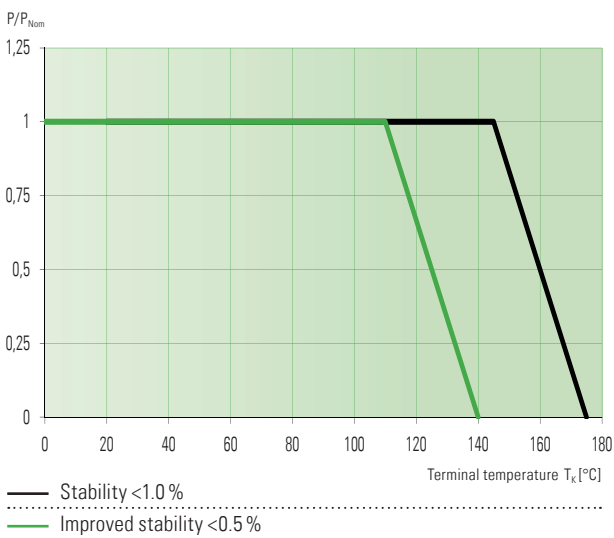
Specification	DIN EN 60286-3			
Tape width	mm	12		
Parts per reel	pcs	5000		



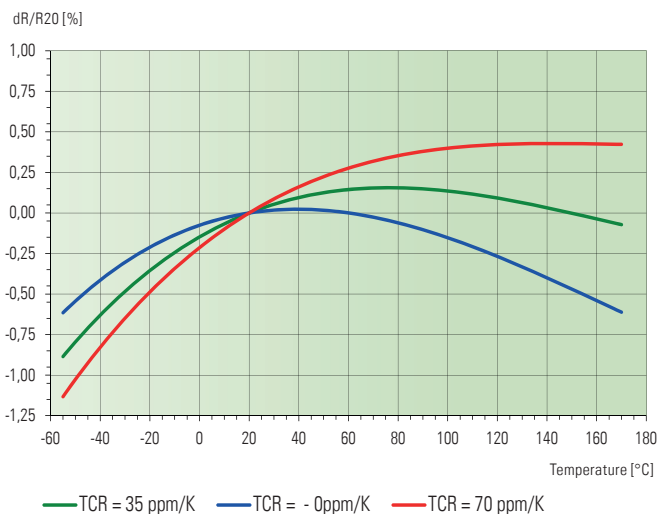
### Specification

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 <sub>K</sub> max at rated power	±1.0 %, T <sub>K</sub> = 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



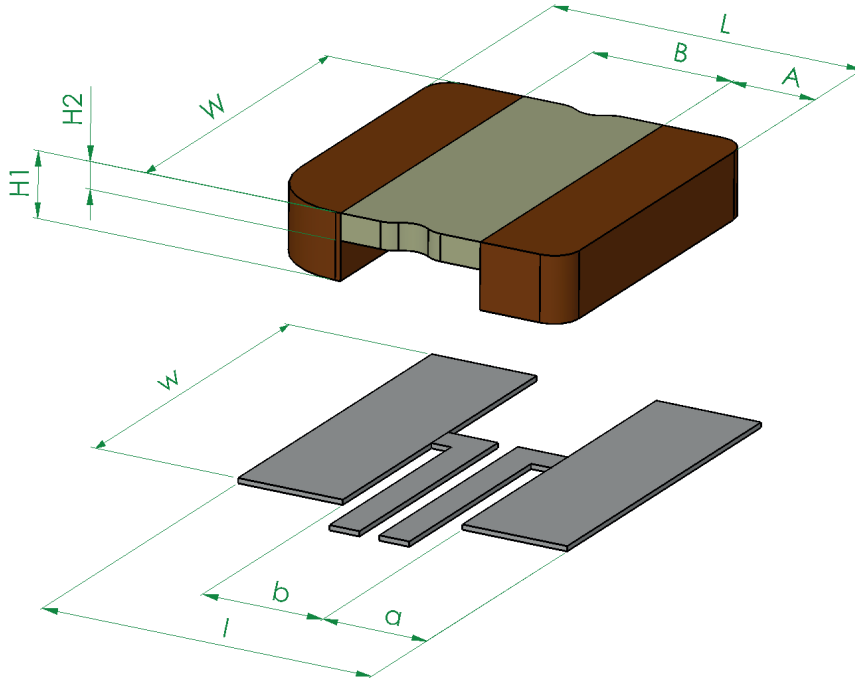
### Temperature dependence of the electrical resistance of BVF-V-R001





**BVF // Size 1213**

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



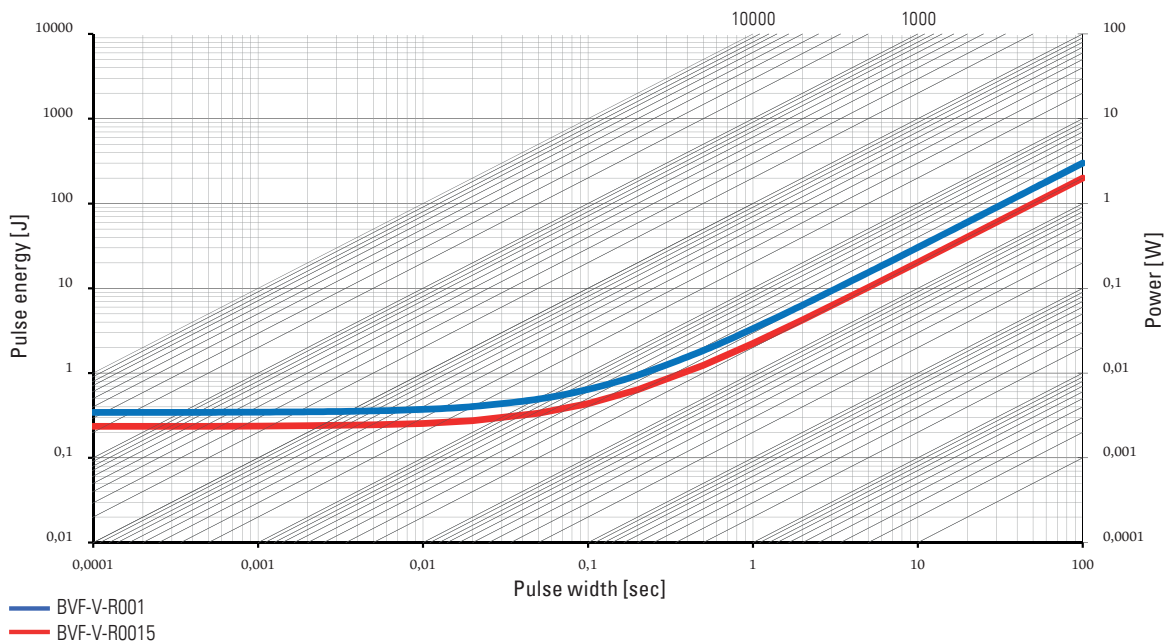
type:	L	W	H1	H2	A	B
BVF-V-R001-1.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.38 ±0.2	0.85 ±0.2	1.4 ±0.2
BVF-V-R0015-1.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.26 ±0.2	0.85 ±0.2	1.4 ±0.2
BVF-V-R0015-5.0	3.1 ±0.2	3.3 ±0.2	0.64 +0.2/-0.1	0.26 ±0.2	0.85 ±0.2	1.4 ±0.2

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



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



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