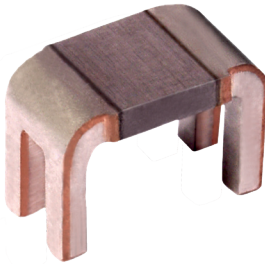




## ISA-WELD® // PRECISION RESISTORS



### BVH // Size 3820



#### Features

- Power rating up to 5 W
- Continuous current load up to 130 A (0.3 mOhm)
- Heavy copper connectors
- Excellent long-term stability
- Max. solder temperature up to 350 °C / 30 sec



#### Applications

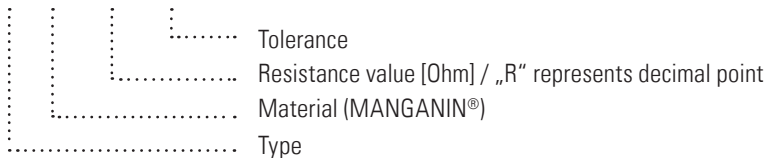
- High current applications for the automotive market
- Frequency converters
- Power modules
- Power tools

#### Technical data

Resistance values	<b>mOhm</b>	0.3	0.5
Tolerance	<b>%</b>	3.0 / 5.0	
Temperature coefficient (20-60 °C)	<b>ppm/K</b>	<300	
Applicable temperature range	<b>°C</b>	-55 to +170	
Power rating <b>P<sub>135 °C</sub></b>	<b>W</b>	5	
Internal heat resistance (R <sub>thi</sub> )	<b>K/W</b>	4	7
Inductance	<b>nH</b>	<3	
Stability (at rated power) deviation after 2000h, T <sub>K</sub> = Terminal temperature		<0.5% (T <sub>K</sub> = 105 °C) <1.0% (T <sub>K</sub> = 135 °C)	

#### Ordering code

BVH - M - R0005 - 5.0



#### Packaging

3000 pcs. sealed in plastic bags. Evacuated and refilled with dry nitrogen



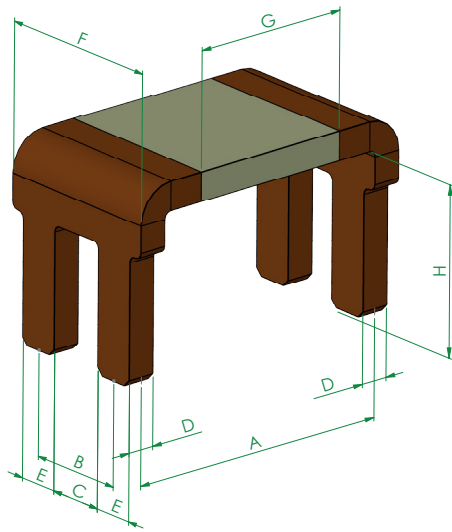
**BVH // Size 3820**

**Recommended solder profile**

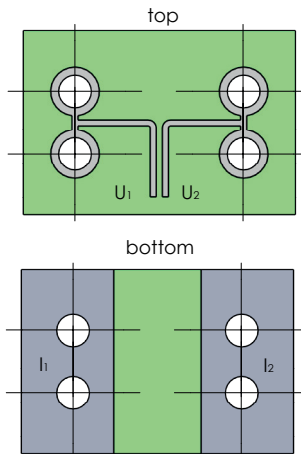
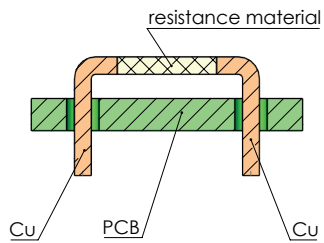
Reflow-, IR- and wave-soldering

Temperature	°C	260	255	217
Time	sec	peak	40	90

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



type:	A	B	C	D	E	F	G	H
BVH-M-R0003	8.3±0.2	3.1±0.1	(1.8)	1.42±0.1	1.3±0.1	5.3±0.5	4.9±0.3	5±0.2
BVH-M-R0005	8.3±0.2	3.1±0.1	(1.8)	0.84±0.1	1.3±0.1	5.3±0.5	4.9±0.3	5±0.2

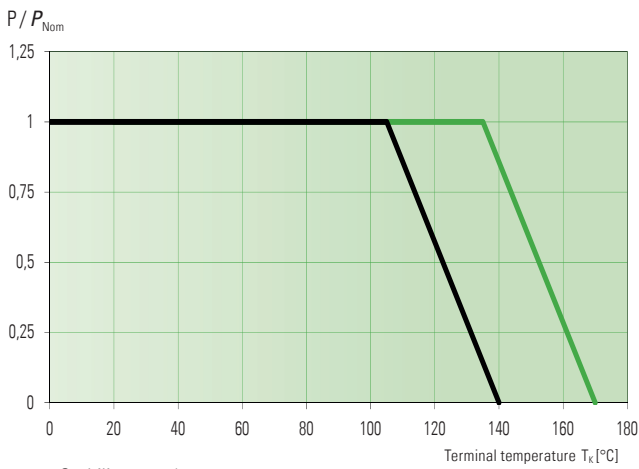


Z-YP-189a



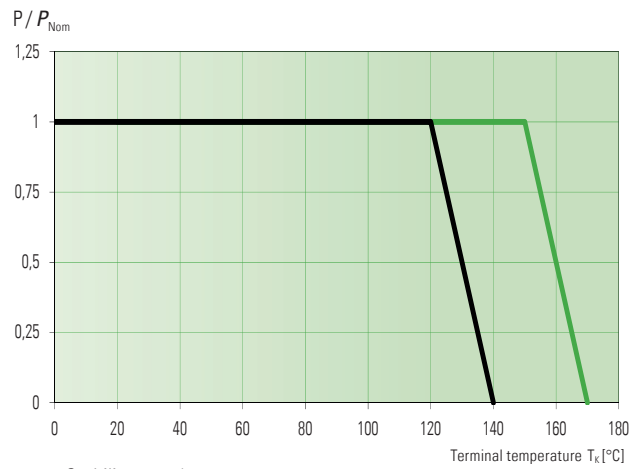
**BVH // Size 3820**

**Power derating curve: BVH-M-R0005**



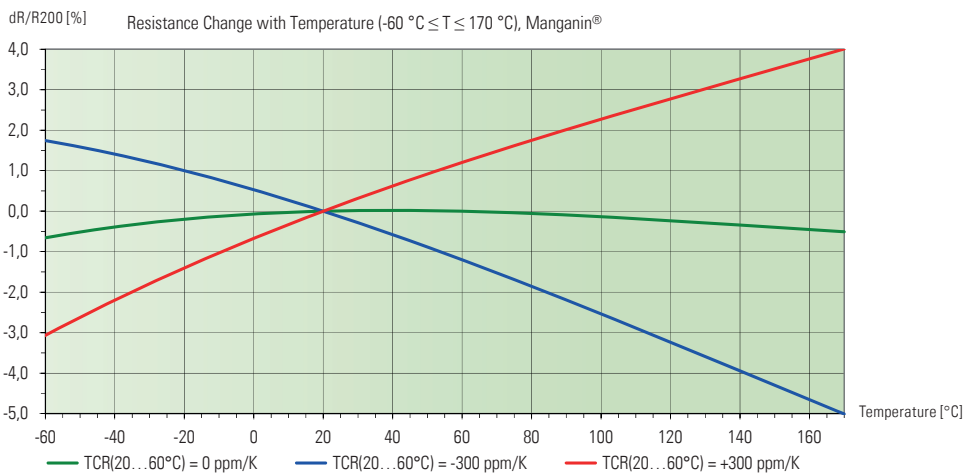
- Stability <1.0%
- Improved stability <0.5%

**Power derating curve: BVH-M-R0003**



- Stability <1.0%
- Improved stability <0.5%

**Temperature dependence of the electrical resistance**



- Limiting curve
- Typical temperature dependence of a BVH resistor

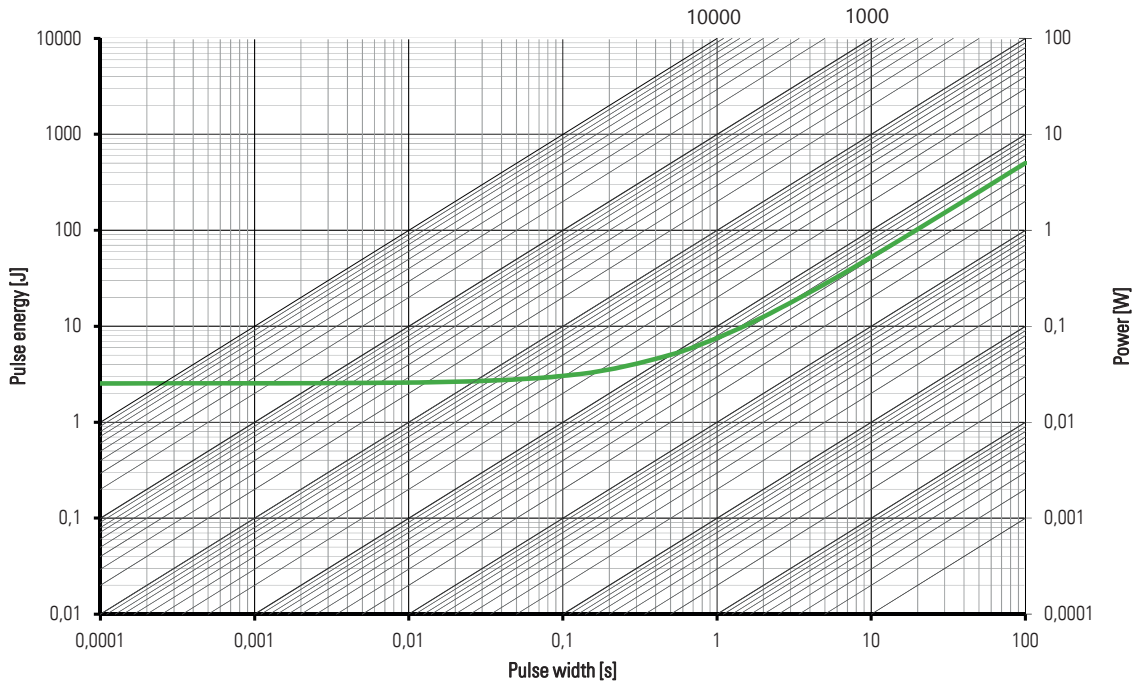


**BVH // Size 3820**

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

**BVH-M-R0003/-R0005**

Maximum pulse energy / power continuous operation ( $T_K = T_{max} - (R_{thi} \times P)$ )



**Specification**

Parameters	Test conditions	Specified values
Temperature Cycling	2000 cycles (-55 °C to +150 °C)	n.a.
Low Temperature Storage and Operation	-65 °C for 24 h	±0.2%
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	20 g, 10-2000 Hz	±0.2%
Operational Life	2000 h, $T_K$ max at rated power	±1.0%
High Temperature Exposure	2000 h / 170 °C	±1.0%
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5%

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