



ISA-WELD® // PRECISION RESISTORS FOR ENERGY METERING



BVD



Features

- _ 3 W power rating
- _ Continuous current load up to 75 A
- _ Excellent long-term stability
- _ Heavy copper connectors
- _ Low inductance value
- _ Mounting: Reflow-soldering or welding on copper
- _ Max. solder temperature up to 350 °C / 30 sec or 250 °C / 10 min
- _ RoHS 2011/65/EU compliant



Applications

- _ Energy metering, kWh-meters
- _ Battery current sensing
- _ High current sensing in automotive applications
- _ Current measurement in battery chargers

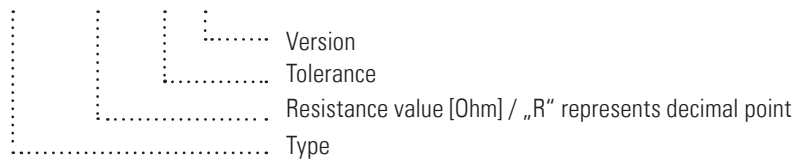
Technical data

Resistance values	mOhm	0.5 *
Tolerance	%	5
Temperature coefficient (20-60 °C)	ppm/K	<50
Applicable temperature range	°C	-55 to +140
Power rating	W	3
Internal heat resistance (R _{thi})	K/W	<10
Inductance	nH	<3
Stability (Nominal load) deviation after 2000h, T _K = Terminal temperature		<0.5 % (T _K =110 °C)

* Further values on request

Ordering code

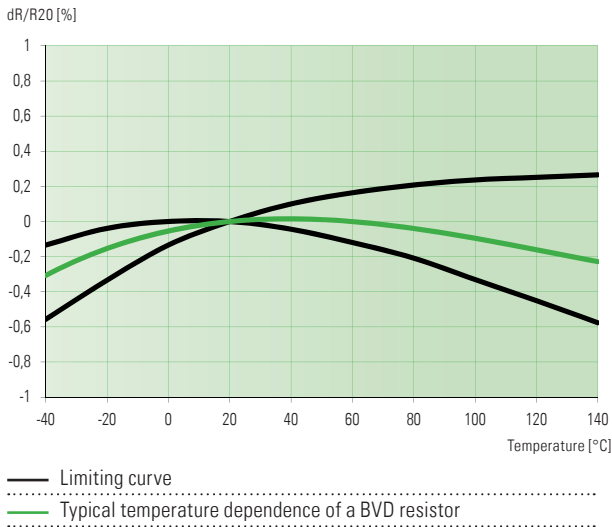
BVD-A - R0005 - 5.0 - D



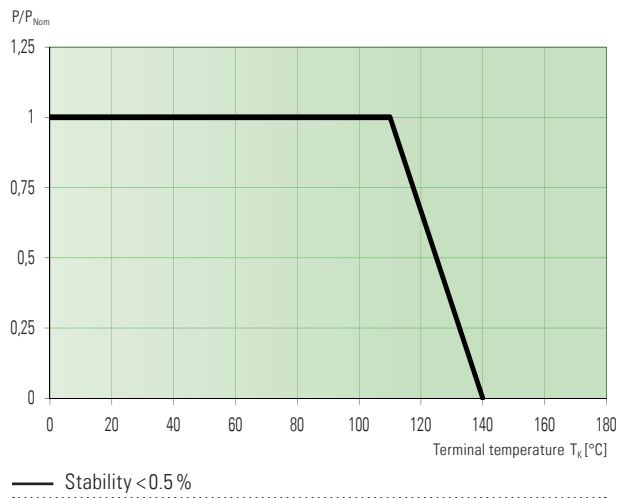


BVD

Temperature dependence of the electrical resistance



Power derating curve



Specification

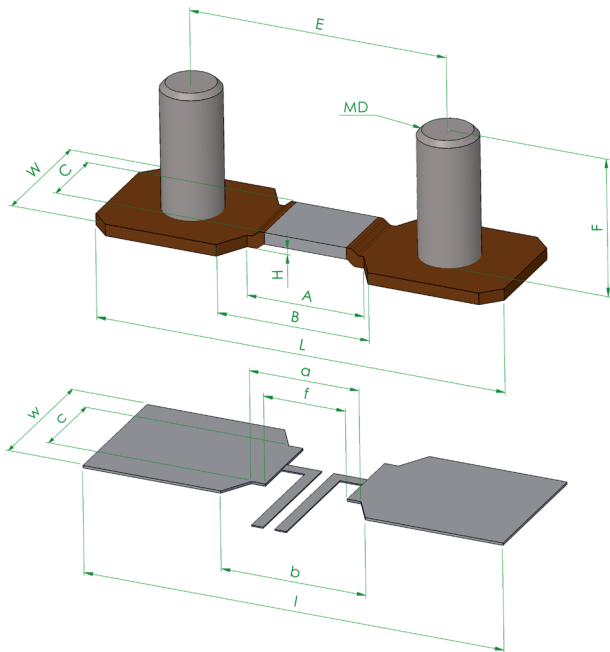
Parameters	Test conditions	Specified values
Temperature Cycling	1000 cycles (-55 °C to +150 °C)	±0.5 %
Low Temperature Storage and Operation	-65 °C for 24 h	±0.5 %
Resistance to Soldering Heat	260 °C for 10 sec / 8h steam aging	±0.5 %
Moisture Resistance	MIL-STD-202 method 106	±0.5 %
Mechanical Shock	100 g, 6 ms half sine	±0.5 %
Vibration, High Frequency	20 g, 10-2000 Hz	±0.5 %
Operational Life	1000 h, TK max at nominal load	±1.0 %
High Temperature Exposure	1000 h / 170 °C	±1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5 %



BVD

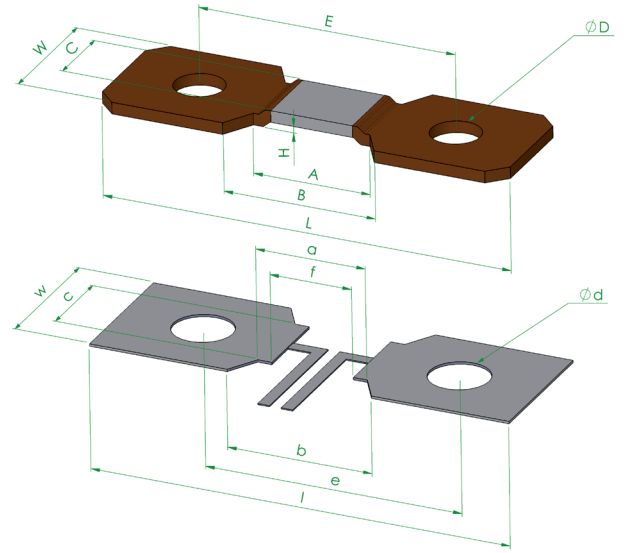
Mechanical dimensions and Pcb-layout proposal, four terminal configuration [mm]

VERSION D



Z-YL-177b

VERSION A (ON REQUEST)



Z-YM-069b

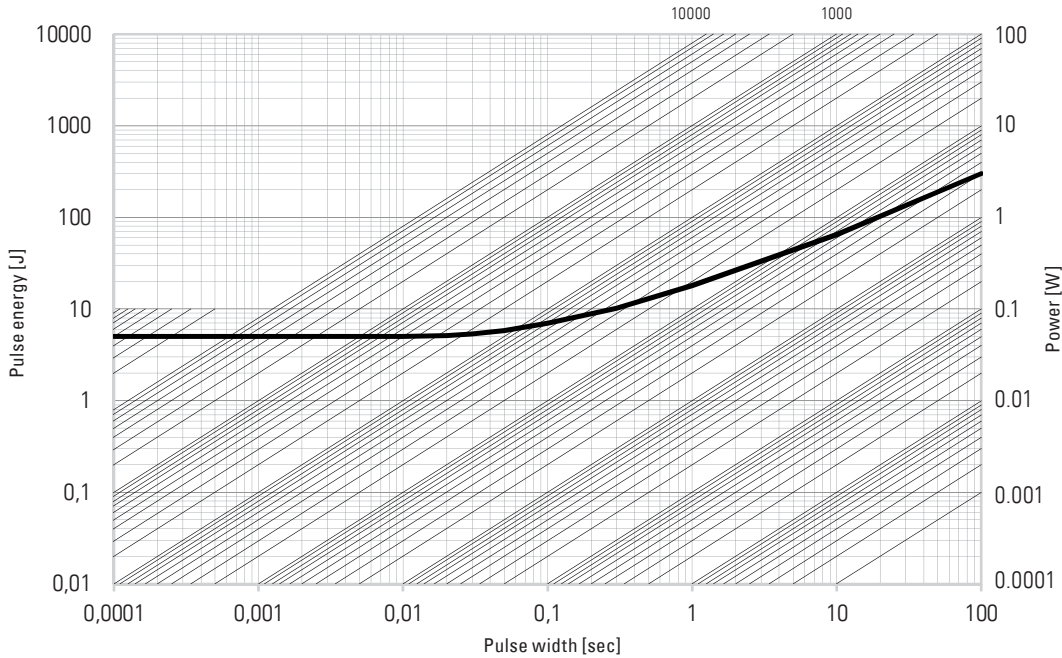
Resistor type	L	W	H	A	B	C	D	E	F
BVD-A-R0005-A	35 ±0.3	11 ±0.2	0.5 ±0.1	10 ±0.2	13 ±0.2	6 ±0.2	Ø 5.1 -0.15	22 ±0.2	-
BVD-A-R0005-D	35 ±0.3	11 ±0.2	0.5 ±0.1	10 ±0.2	13 ±0.2	6 ±0.2	M5	22 ±0.2	12.2 ±0.5

Solder pad type	l	w	a	b	c	d	e	f
BVD-A-R0005-A	36	12	9.4	12.4	7	Ø 5.1	22	7
BVD-A-R0005-D	36	12	9.4	12.4	7	-	-	7



BVD

Maximum pulse energy respectively pulse power for permanent operation



This curve is only valid for the resistance value R0005. The progression of the curve in the lower range could be different for other resistance values. Therefore a separate qualification should be made in thresholds.

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.

