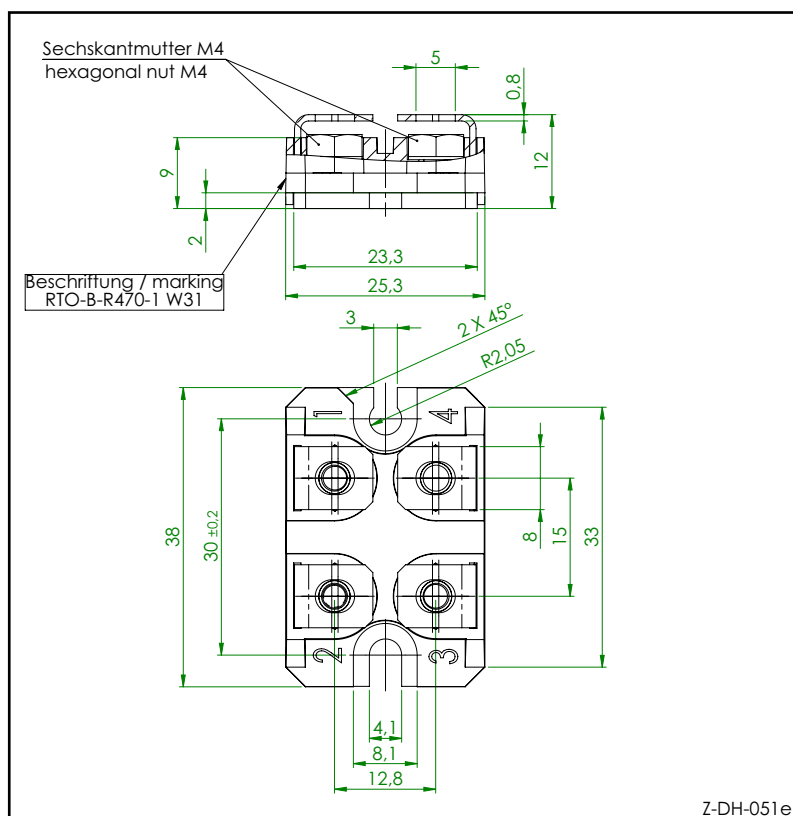


ISA-PLAN® - Präzisionswiderstände / Precision resistors

TECHNISCHE DATEN / TECHNICAL DATA		
Widerstandswerte	Resistance values	1, 2, 5, 10, 15, 20, 33, 50, 68, 100, 150, 200, 330, 470 mOhm
Toleranz	Tolerance	0.5%, 1%, 5 %
Temperaturkoeffizient (MANGANIN®)	Temperature coefficient (tcr)	< 50 ppm/K (20 °C to 60 °C)
Temperaturbereich	Applicable temperature range	-55 °C to +170 °C
Belastbarkeit	Load capacity	40 W Kühlkörpermontage/ with heatsink
Innerer Wärmewiderstand (R_{thi})	Internal heat resistance (R_{thi})	< 2,5 K/W
Isolationsspannung	Dielectric withstanding voltage	2500 VAC
Induktivität $R \leq 20$ mOhm	Inductance	< 5 nH
Stabilität (Nennlast) Abweichung T_K = Gehäusebodentemperatur	Stability (nominal load) deviation T_K = package bottom temperature	< 0.5 % nach/after 2000 h ($T_K = 40$ °C) < 1.0 % nach/after 2000 h ($T_K = 70$ °C)

MERKMALE / FEATURES

- 40 W Dauerleistung
- 40 W permanent power
- Sehr hohe Pulsbelastbarkeit 20 Joule für 20 ms ($R < 20$ mOhm)
- High pulse power rating 20 Joule for 20 ms ($R < 20$ mOhm)
- Dauerströme bis 200 A ($R = 1$ mOhm)
- Constant current up to 200 Amps ($R = 1$ mOhm)
- Isolationfestigkeit 2500 VAC
- dielectric withstanding voltage 2500 VAC
- Bauform SOT 227B (ISOTOP)
- Size SOT 227B (ISOTOP)
- Stromanschluss über Schraubverbindung
- Current connection via screws
- Vier-Leiter Messwiderstand
- Resistor with 4-terminal connection (Kelvin connection)



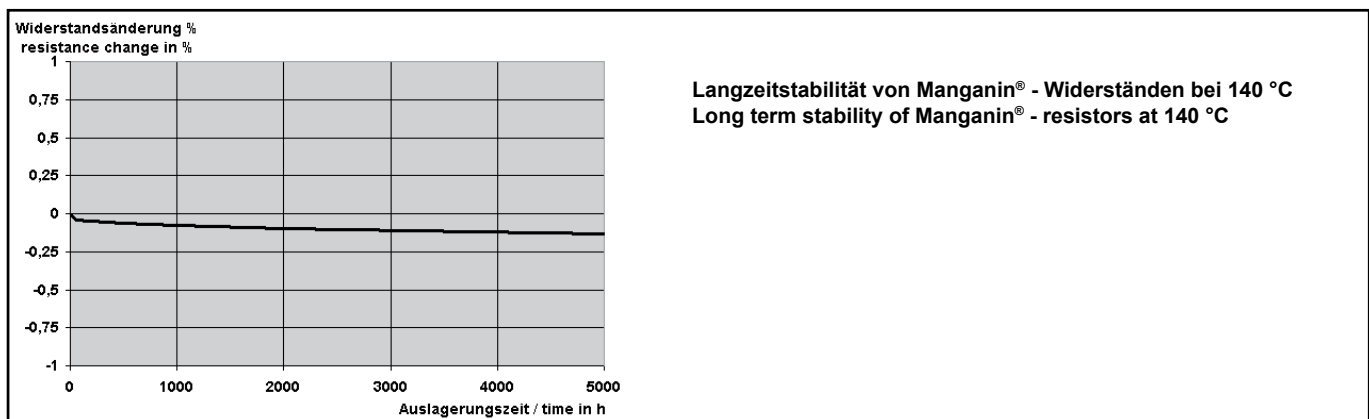
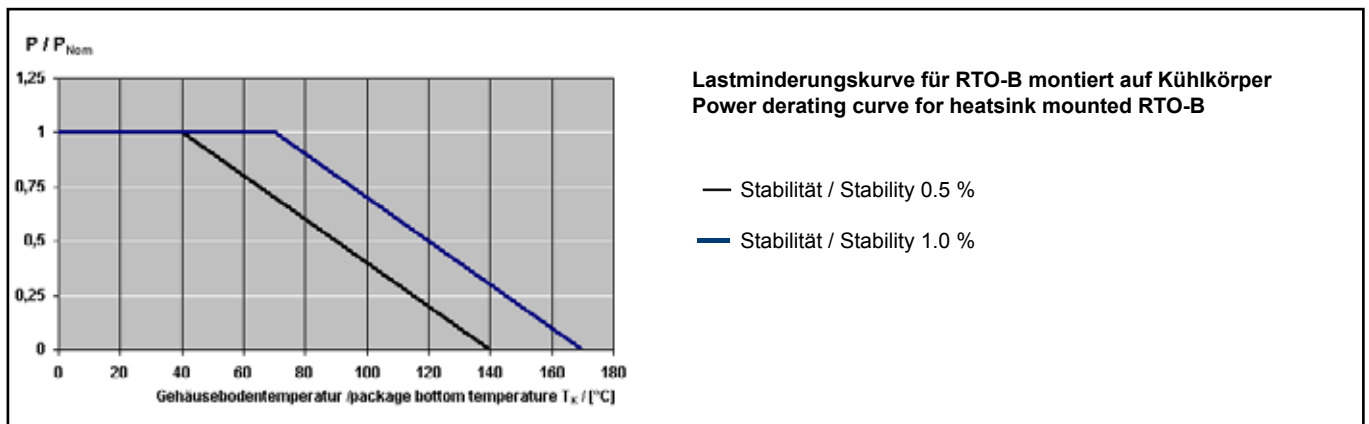
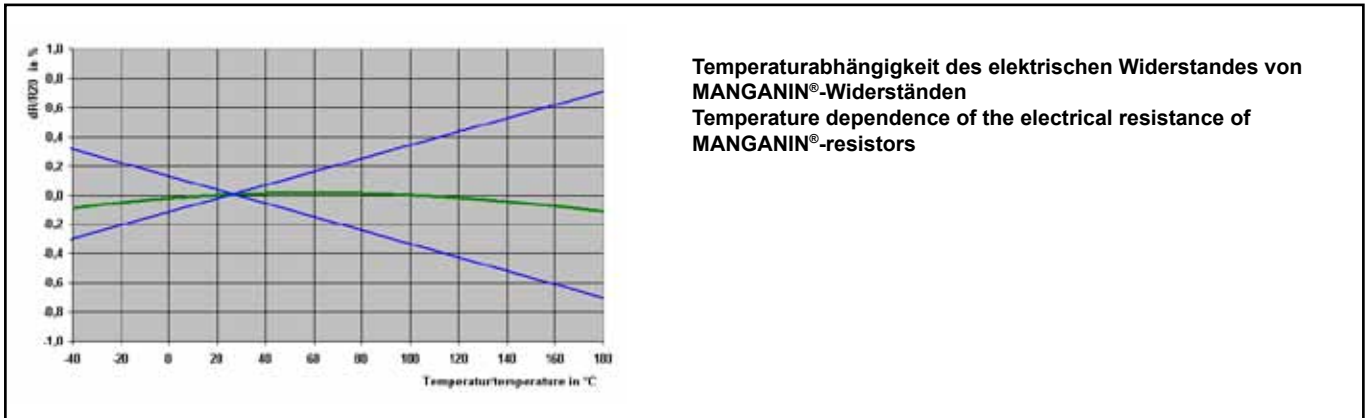
Z-DH-051e

Abmessungen (mm) / dimensions (mm)

Kontaktbelegung für RTO-B
Pin designation for RTO-B

Nr./No.	Kontakt/Contact
1	I_1
2	I_2
3	U_2
4	U_1

TK, Lastminderung und Langzeitstabilität / TCR, power derating and long term stability



Lötprofil Vorschlag / Recommended solder profile
<p>RoHS 2002/95/EG konform seit 01.01.2005. Ausführliche Informationen erhalten Sie auf unserer Homepage: www.isabellenhuette.de</p> <p>RoHS 2002/95/EC compliance since 01.Jan.2005. For more information please visit our website: www.isabellenhuette.de</p>

BESTELLBEZEICHNUNG / ORDERING CODE			
RTO-B-R001-1.0			
Typ	Widerstandswert	Anschlüsse	Toleranz
Type	Resistance value	terminal	Tolerance
RTO-B	1 mOhm		1.0 %

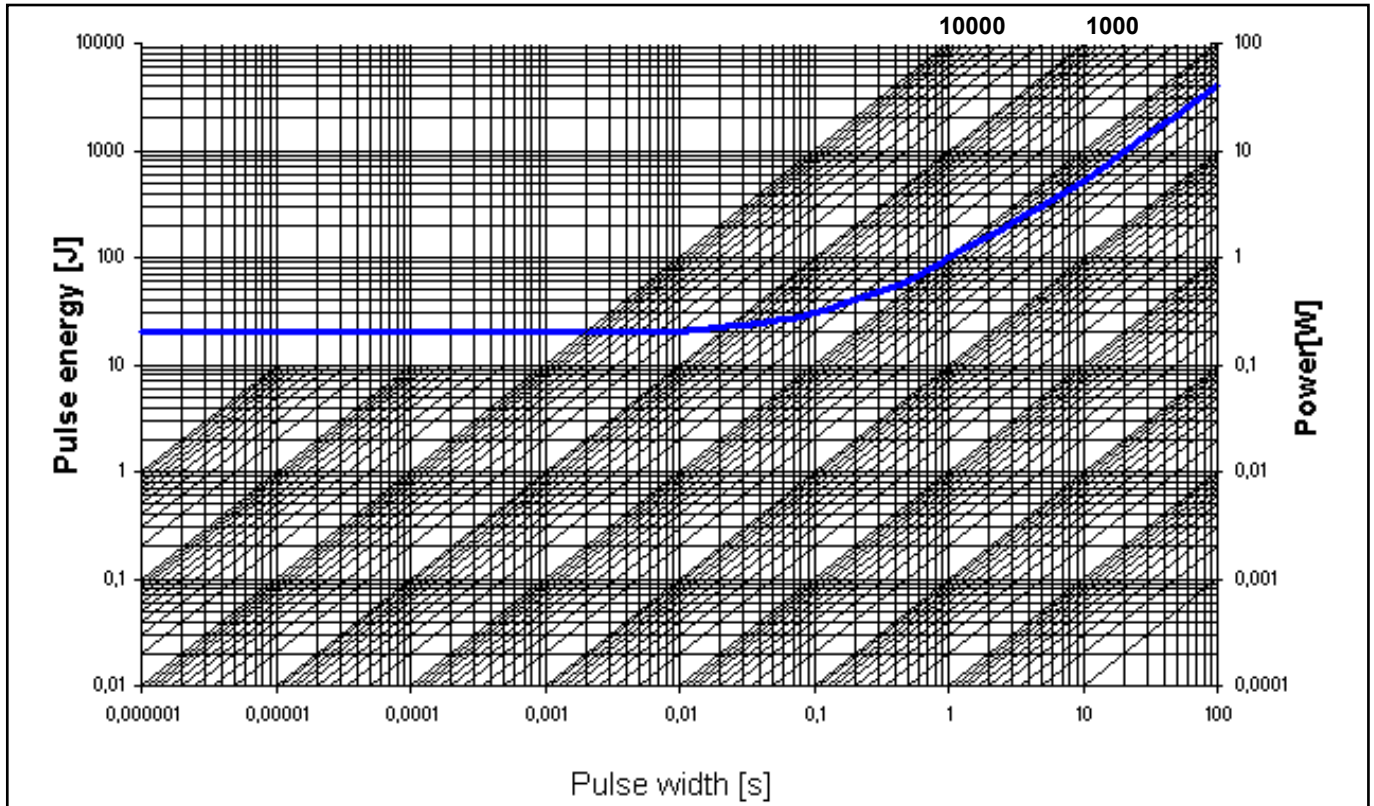
Gewährleistung

Alle Angaben über Eignung, Verarbeitung und Anwendung unserer Produkte, technische Beratung und sonstige Angaben erfolgen nach bestem Wissen, befreien den Käufer jedoch nicht von eigenen Prüfungen und Versuchen.

Warranty

All information regarding the suitability, workability and applicability of our products, all technical advice and other information are provided to the best of our knowledge and belief, but shall not discharge the buyer from his own examinations and tests.

Grenzkurve für maximale Pulsenergie bzw. Pulsleistung für Dauerbetrieb
Diagram of pulse energy. Maximum puls energy resp. pulse power for continous operation



Die dargestellte Kurve gilt für den Widerstandswert R001. Für andere Werte kann die Kurve im unteren Bereich ggf. anders verlaufen, so dass in Grenzbereichen eine separate Qualifikation erfolgen sollte.
 This curve is only valid for the resistance value R001. 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.

Spezifikation/Specification			
Parameters	Test Conditions	Specification	Typical data
Maximum Temperature for full power operation	95 °C	95 °C	
Working Temperature	-55 to 170 °C	-55 to 170 °C	
Thermal Shock	MIL-STD-202 method 107-B1	0.2 %	0.1 %
Overload	MIL-R-26E (5 times rated power, 5 sec)	0.2 %	0.1 %
Solderability	MIL-STD-202 method 208	n.a.	n.a.
Resistance to Solvents	MIL-STD-202 method 215, 2.1a, 2.1d	no damage	no
Low Temperature Storage and Operation	MIL-STD-26E	0.2 %	0.05 %
Terminal Strength	MIL-STD-202 method 211A	50N, 0.02 %	> 100 N, 0.01 %
Resistance to Soldering Heat	MIL-STD-202 method 210	0.1 %	0.02 %
Moisture Resistance	MIL-STD-202 method 106	0.2 %	0.1 %
Shock	MIL-STD-202 method 213-A	0.2 %	0.03 %
Vibration, High Frequency	MIL-STD-202 method 204-B	0.2 %	0.1 %
Life	MIL-STD-26E	0.5 %	0.2 %
Storage Life at Elevated Temperature	MIL-STD-202 method 108-F	0.3 %	0.2 %
High Temperature Exposure	140 °C, 2000 h	0.5 %	0.2 %
Current Noise	MIL-STD-202 method 308	0.01 %	< 0.001 %
Voltage Coefficient (%/V)	MIL-STD-202 method 309	linearity error less than 120dB	
Resistance Temperature Characteristic	MIL-STD-202 method 304 (20-60 °C)	< 50 ppm/K	< 30 ppm/K
Thermal EMF	0 - 100 °C	2 µV/K max.	0.5 µV/K max.
Frequency Characteristic R ≤ 10 mOhm	inductivity	< 5 nH	