

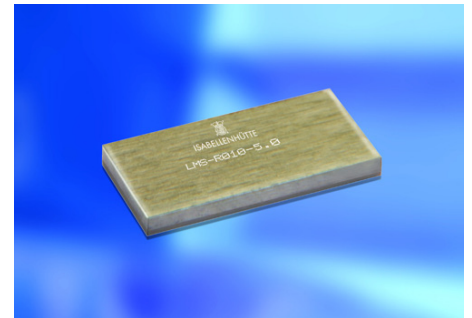
## ISA-PLAN® - SMD Präzisionswiderstände / SMD precision resistors

TECHNISCHE DATEN / TECHNICAL DATA		
Widerstandswerte	Resistance values	1 mOhm - 500 mOhm
Toleranz	Tolerance	1 %*, 5 %
Temperaturkoeffizient	Temperature coefficient	< 50 ppm/K (20 °C bis/to 60 °C)
Temperaturbereich	Applicable temperature range	-55 °C bis/to +170 °C
Belastbarkeit	Load capacity	3 W
Innerer Widerstand ( $R_{thi}$ )	Internal heat resistance ( $R_{thi}$ )	< 25 K/W
Isolationsspannung	Dielectric withstanding voltage	100 V
Induktivität ( $R < 25$ mOhm)	Inductance ( $R < 25$ mOhm)	< 3 nH
Stabilität (Nennlast) Abweichung $T_K =$ Kontaktstellentemperatur / Stability (Nominal load) deviation $T_K =$ Terminal temperature		< 1.0 % nach/after 2000 h ( $T_K = 70$ °C) < 2.0 % nach/after 2000 h ( $T_K = 95$ °C)

\* Für Werte > 10 mOhm / For values > 10 mOhm

### MERKMALE / FEATURES

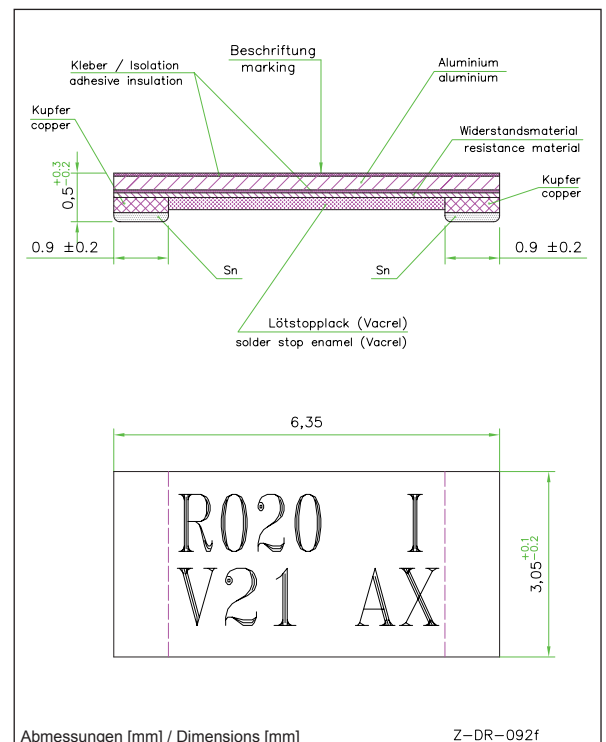
- 3 W Dauerleistung  
3 W permanent power
- Dauerströme bis 55 A (1 mOhm)  
Continuous current load up to 55 A (1 mOhm)
- Standard-Lötpadgeometrie  
Standard pad size
- Sehr hohe Pulsbelastbarkeit  
High pulse power rating
- Bauteilemontage: Reflow-, und IR-Löten,  
kein Wellenlöten  
Mounting: Reflow- and IR-soldering,  
no wave soldering



Bauform / Size 2512

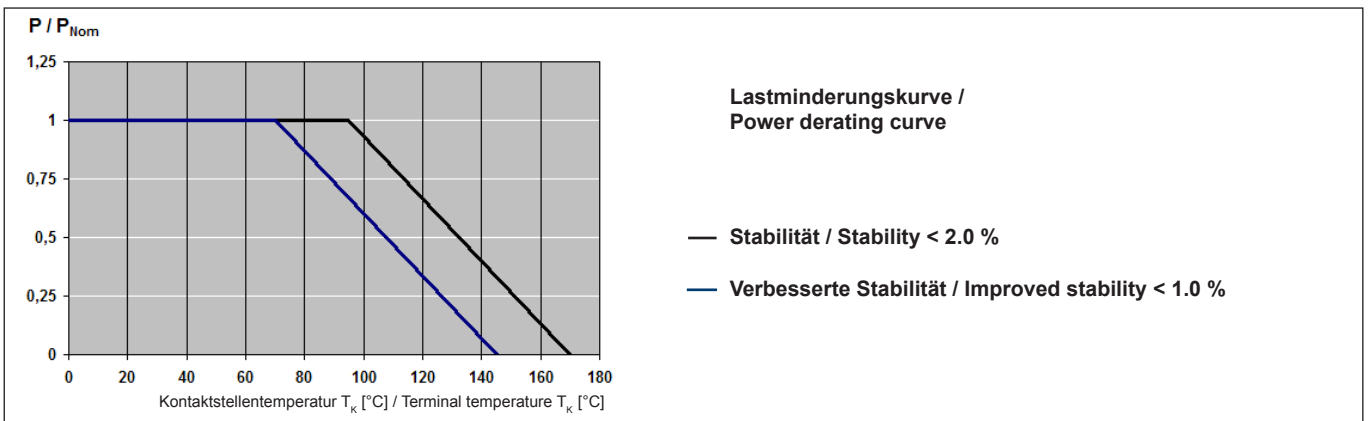
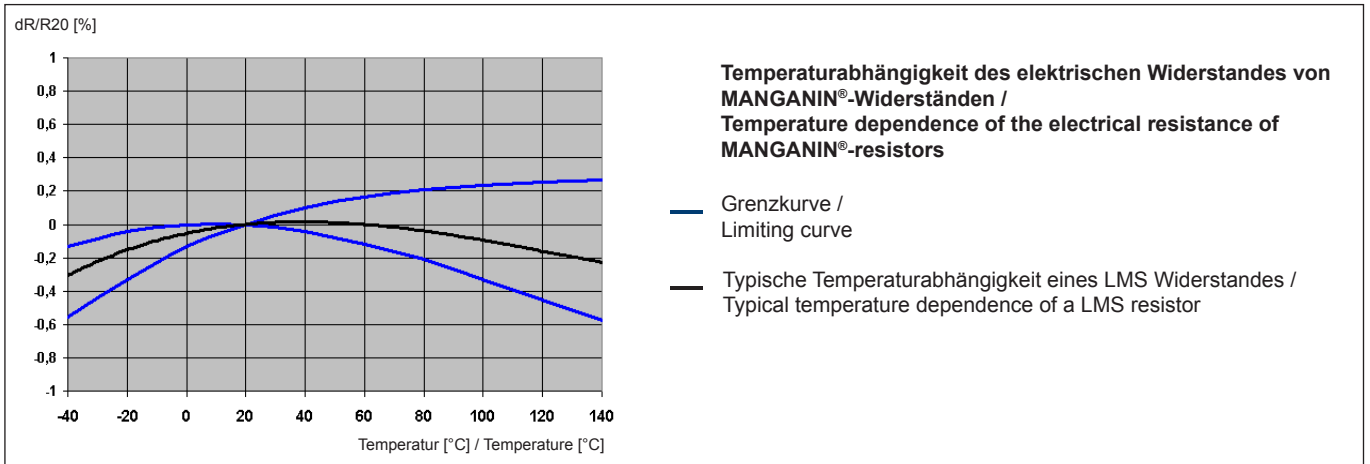
### APPLIKATIONEN / APPLICATION

- Messwiderstand für Leistungshybride  
Current sensor for power hybrid applications
- Steuergeräte in der Automobiltechnik  
Control systems for the automotive market
- Leistungsmodule  
Power modules
- Schaltnetzteile  
Switch mode power supplies

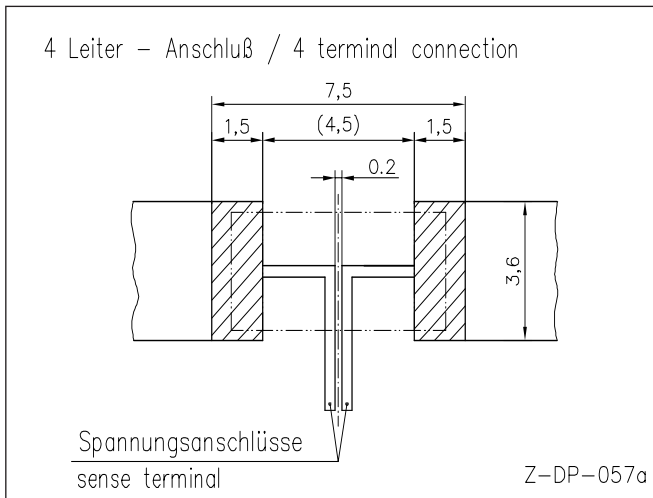




## TK und Lastminderung / TCR and power derating



## Vorschlag für Leiterplatten Layout (Reflowlöten) / Proposal for pcb-layout (reflow soldering)



Abmessungen [mm] / Dimensions [mm]

Bei abweichender Lötpadgeometrie kann es zu gemessenen R- Wert Verschiebungen kommen.

The measured resistance value may change with differing pcb-layout geometry.

Lötprofil Vorschlag / Recommended solder profile			
Reflow-, IR-löten / Reflow-, IR-soldering			
Temperatur / Temperature [°C]	260	255	217
Zeit / Time [s]	peak	40	90

GURTINFORMATIONEN / TAPE & REEL INFORMATION	
Norm / Specification	DIN EN 60286-3
Gurtbreite / Tape width	12 mm
Anzahl Bauteile / Parts per reel	5000

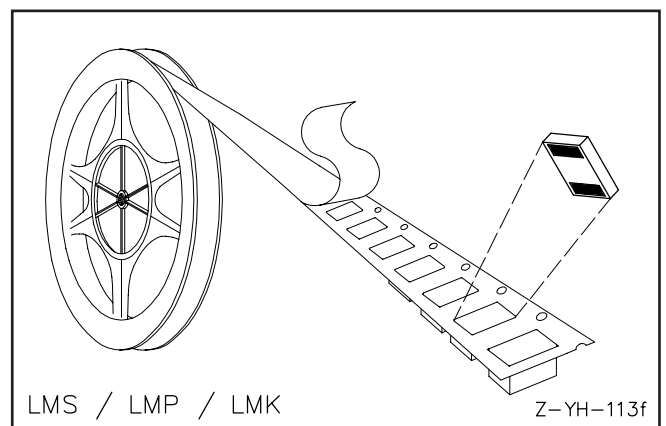
BESTELLBEZEICHNUNG / ORDERING CODE		
<b>LMS-R001-5.0</b>		
Typ / Type	Widerstandswert / Resistance value	Toleranz / Tolerance
LMS	1 mOhm	5.0 %

### RoHS 2002/95/EG konform seit Produktstart.

Ausführliche Informationen erhalten Sie auf unserer Homepage:  
[www.isabellenhuette.de](http://www.isabellenhuette.de)

### RoHS 2002/95/EC compliance since product launch.

For more information please visit our website:  
[www.isabellenhuette.de](http://www.isabellenhuette.de)



### Gewährleistung

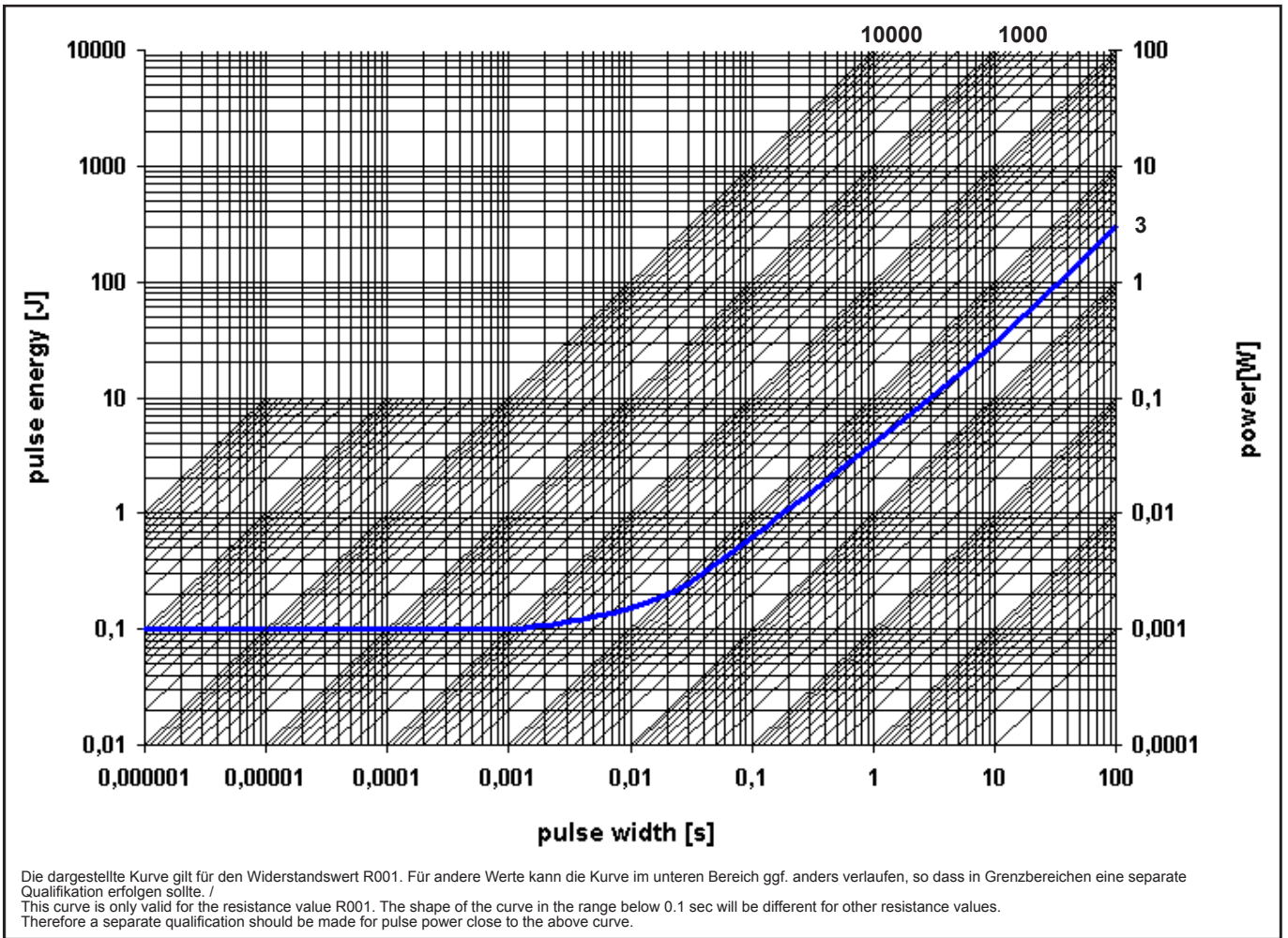
Alle Angaben über Eignung, Verarbeitung und Anwendung unserer Produkte, technische Beratung und sonstige Angaben erfolgen nach bestem Wissen, befreien den Käufer jedoch nicht von eigenen Prüfungen und Versuchen.

### 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 /  
Maximum pulse energy respectively pulse power for continuous operation**



Spezifikation/Specification			
Parameters	Test Conditions	Specification	Typical data
Maximum Temperature for full power operation	120 °C	120 °C	120 °C
Working Temperature	-55 to 170 °C	-55 to 170 °C	-55 to 170 °C
Thermal Shock	MIL-STD-202 method 107E-B1	0.1 %	0.1 %
Overload	MIL-R-26E (5 times rated power, 5 sec)	0.2 %	0.2 %
Solderability	MIL-STD-202 method 208	> 95 % coverage	> 95 % coverage
Resistance to Solvents	MIL-STD-202 method 215A, 2.1a, 2.1d	no damage	no damage
Low Temperature Storage and Operation	MIL-STD-26E	0.1 %	0.1 %
Resistance to Soldering Heat	MIL-STD-202 method 210B	0.1 %	0.1 %
Moisture Resistance	MIL-STD-202 method 106	0.1 %	0.1 %
Shock	MIL-STD-202 method 213B-A	0.2 %	0.2 %
Vibration, High Frequency	MIL-STD-202 method 204D-B	0.2 %	0.2 %
Life	MIL-STD-26E	0.2 %	0.2 %
Storage Life at Elevated Temperature	MIL-STD-202 method 108A-F	0.3 %	0.3 %
Current Noise	MIL-STD-202 method 308	0.01 %	0.01 %
Voltage Coefficient (%/V)	MIL-STD-202 method 309	linearity error less than 120dB	120dB
Resistance Temperature Characteristic	MIL-STD-202 method 304 (20 - 60°C)	<50 ppm/K	<50 ppm/K
Thermal EMF	0 - 100 °C	2 µV/ °C max.	2 µV/ °C max.
Frequency Characteristic	inductivity	< 3 nH	< 3 nH