

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

TECHNISCHE DATEN / TECHNICAL DATA		
Widerstandswerte	Resistance values	10 mOhm - 4.7 Ohm
Toleranz	Tolerance	0.5 % ( $\geq 50$ mOhm), 1 %, 5 %
Temperaturkoeffizient	Temperature coefficient	$< 50$ ppm/K (20 °C - 60 °C)
Temperaturbereich	Applicable temperature range	-55 °C bis/to +140 °C
Belastbarkeit	Load capacity	5 W
Innerer Wärmewiderstand ( $R_{thi}$ )	Internal heat resistance ( $R_{thi}$ )	$< 15$ K/W
Isolationsspannung	Dielectric withstanding voltage	1000 V AC/DC
Induktivität	Inductance	$< 10$ nH
Stabilität (Nennlast) Abweichung $T_K =$ Kontaktstellentemperatur / Stability (Nominal load) deviation $T_K =$ Terminal temperature		$< 0.5$ % nach/after 2000 h ( $T_K = 65$ °C)

### MERKMALE / FEATURES

- 5 W Dauerleistung bei 65 °C  
5 W permanent power at 65 °C
- Dauerströme bis 22 A (10 mOhm)  
Continuous current load up to 22 A (10 mOhm)
- Sehr hohe Pulsbelastbarkeit  
High pulse power rating
- Bauteilemontage: Reflow-, IR- und Wellenlötens  
Mounting: Reflow-, IR- and wave-soldering

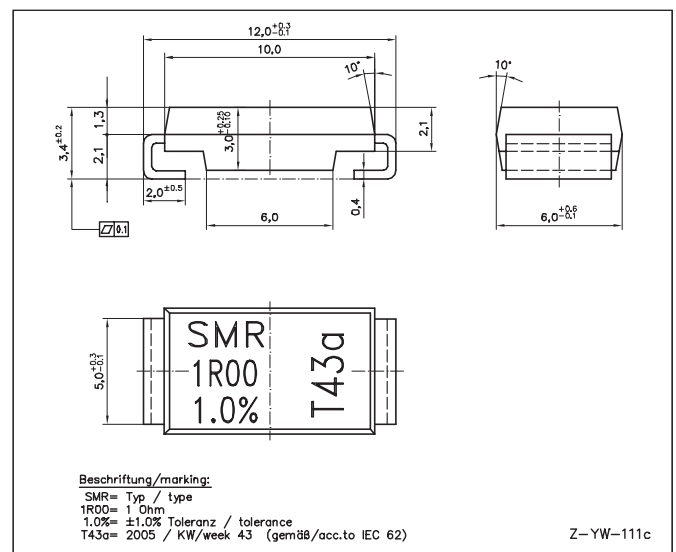


Bauform / Size 4723

not for new designs  
end of life

### APPLIKATIONEN / APPLICATION

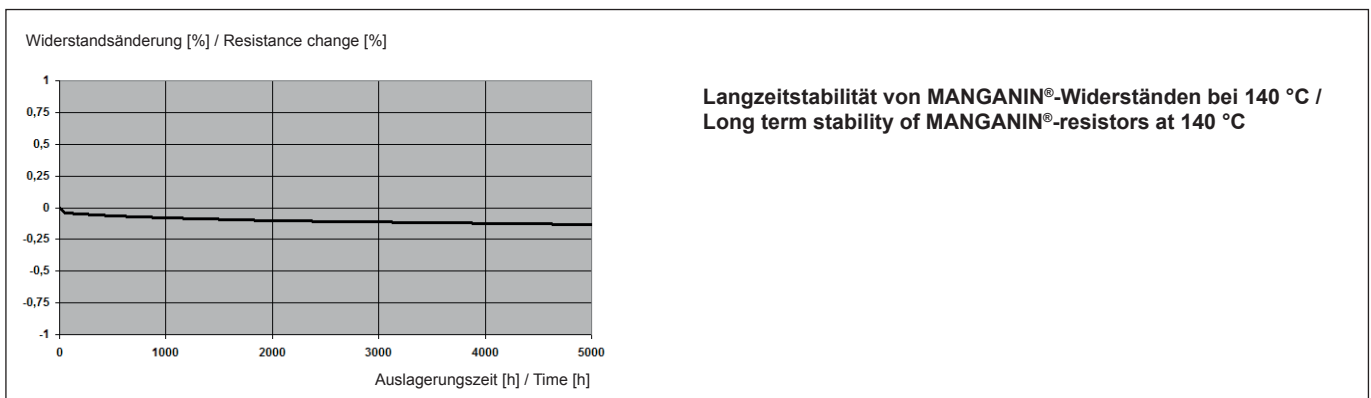
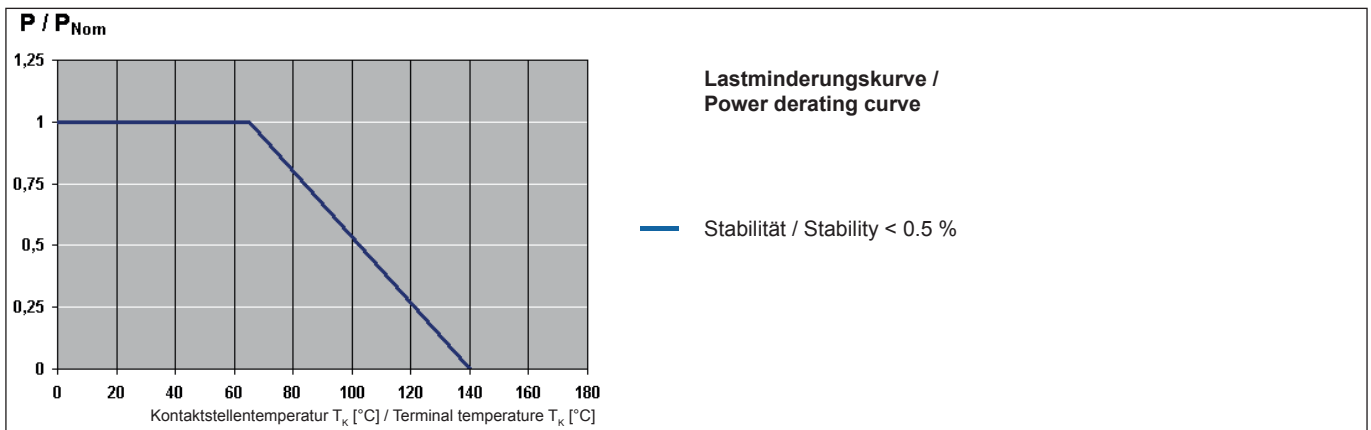
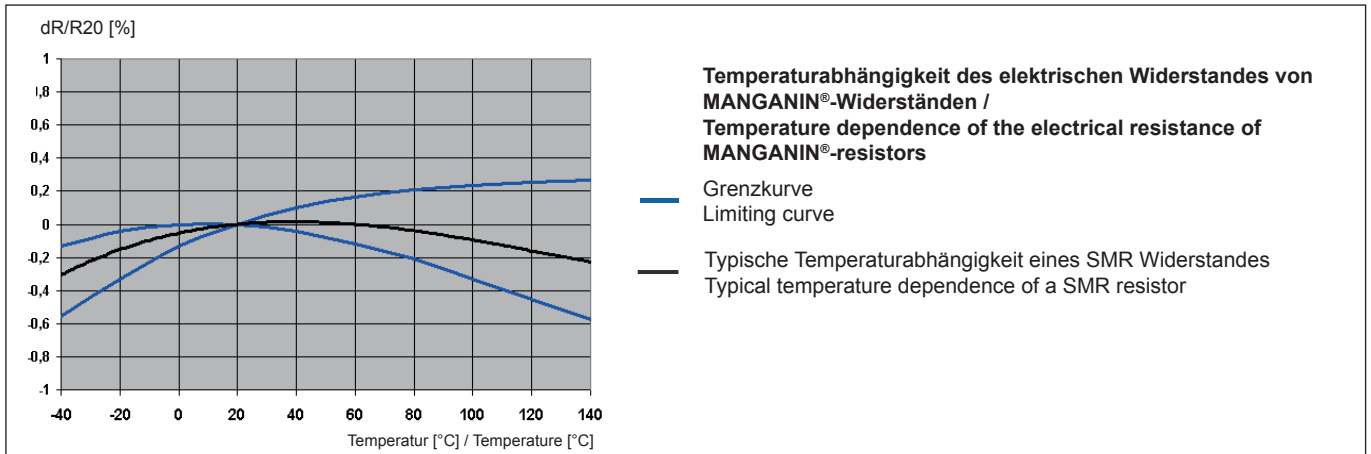
- Messwiderstand für Leistungshybride  
Current sensor for power hybrid applications
- Steuergeräte in der Automobiltechnik  
Control systems for the automotive market
- Leistungsmodulare  
Power modules
- Schaltnetzteile  
Switch mode power supplies



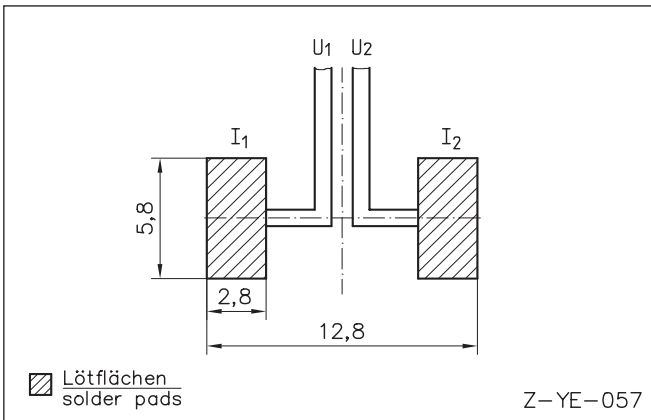
Abmessungen [mm] / Dimensions [mm]



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



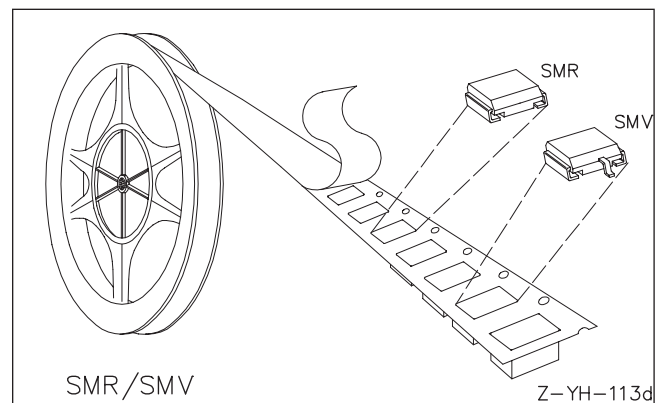
## Vorschlag für Leiterplatten Layout (Reflowlöten) / Proposal for pcb-layout (Reflow-soldering)



Abmessungen [mm] / Dimensions [mm]

Lötprofil Vorschlag / Recommended solder profile			
Reflow-, IR- und Wellenlöten / Reflow-, IR- and wave-soldering			
Temperatur / Temperature [°C]	260	255	217
Zeit / Time [s]	peak	40	90
RoHS 2002/95/EG konform seit 01.01.2005. Ausführliche Informationen erhalten Sie auf unserer Homepage: <a href="http://www.isabellenhuette.de">www.isabellenhuette.de</a> RoHS 2002/95/EC compliance since 01.01.2005. For more information please visit our website: <a href="http://www.isabellenhuette.de">www.isabellenhuette.de</a>			

GURTINFORMATIONEN / TAPE & REEL INFORMATION		
Norm / Specification	DIN EN 60286-3	
Gurtbreite / Tape width	24 mm	
Anzahl Bauteile / Parts per reel	1500	
BESTELLBEZEICHNUNG / ORDERING CODE		
<b>SMR-R010-1.0</b>		
Typ / Type	Widerstandswert / Resistance value	Toleranz / Tolerance
SMR	10 mOhm	1.0 %



### Gewährleistung

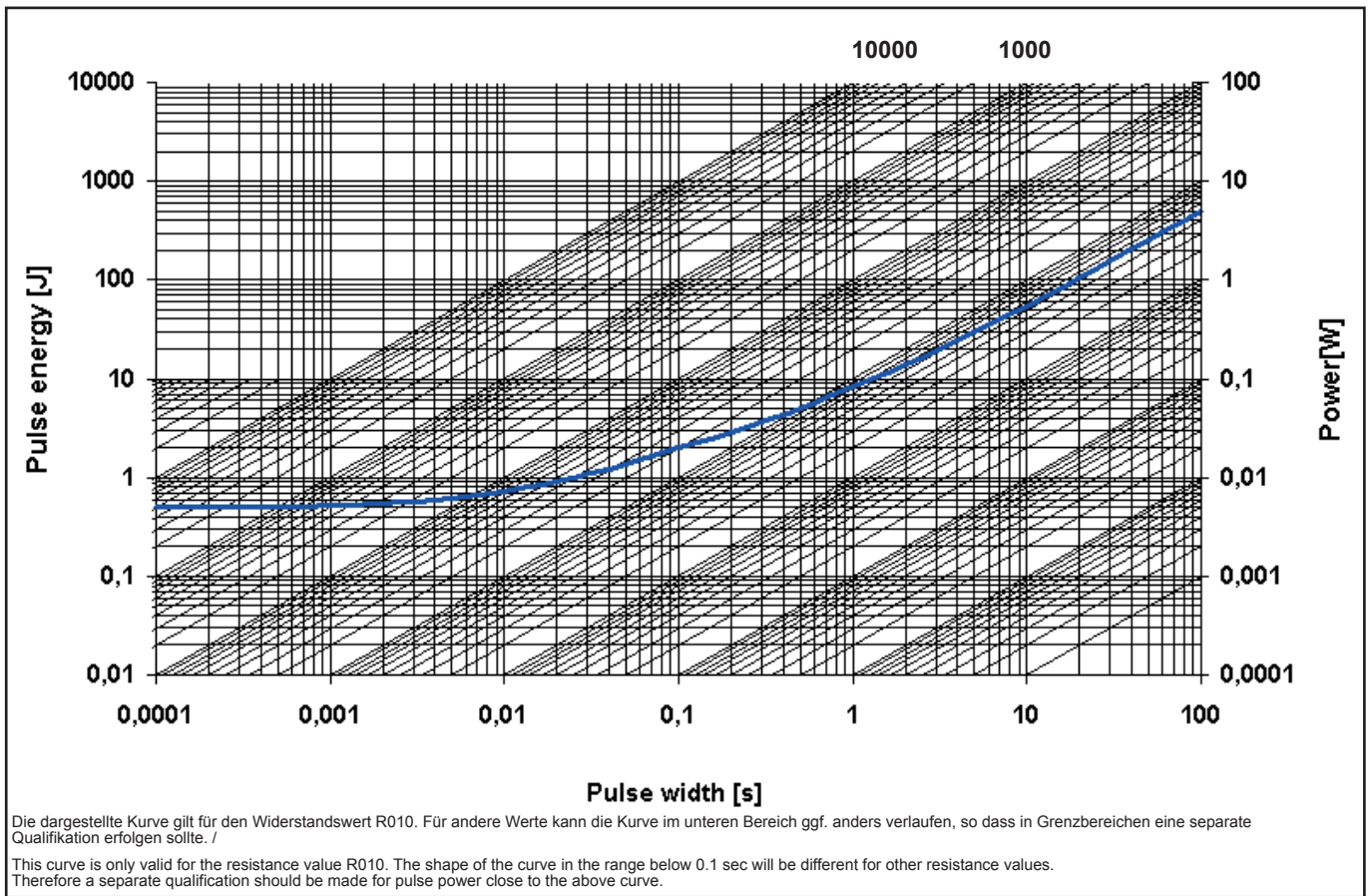
Alle Angaben über Eignung, Verarbeitung und Anwendung unserer Produkte, technische Beratung und sonstige Angaben erfolgen nach bestem Wissen, befreien den Käufer jedoch nicht von eigenen Prüfungen und Versuchen.

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



Spezifikationen / Specifications			
Parameters	Test Conditions	Specification	Typical data
Maximum Temperature for full power operation	80 °C	80 °C	80 °C
Working Temperature	-55 to 140 °C	-55 to 140 °C	-55 to 140 °C
Thermal Shock	MIL-STD-202 method 107-B1	0.1 %	0.05 %
Overload	MIL-R-26E (5 times rated power, 5 sec)	0.2 %	0.1 %
Solderability	MIL-STD-202 method 208	> 95 % coverage	
Resistance to Solvents	MIL-STD-202 method 215A, 2.1a, 2.1d	no damage	
Low Temperature Storage and Operation	MIL-STD-26E	0.1 %	0.05 %
Resistance to Soldering Heat	MIL-STD-202 method 210	0.1 %	0.05 %
Moisture Resistance	MIL-STD-202 method 106	0.1 %	0.1 %
Shock	MIL-STD-202 method 213-A	0.2 %	0.2 %
Vibration, High Frequency	MIL-STD-202 method 204-B	0.2 %	0.2 %
Life	MIL-STD-26E	0.2 %	0.2 %
Storage Life at Elevated Temperature	MIL-STD-202 method 108-F	0.3 %	0.3 %
High Temperature Exposure	140 °C, 2000 h	0.2 %	0.2 %
Current Noise	MIL-STD-202 method 308	0.01 %	0.01 %
Voltage Coefficient (%/V)	MIL-STD-202 method 309	linearity error less than 120dB	
Resistance Temperature Characteristic	MIL-STD-202 method 304 (20-60°C)	<30 ppm/K	<30 ppm/K
Thermal EMF	0 - 100 °C	3 µV/K max.	2 µV/K
Frequency Characteristic	inductivity	< 10 nH	< 7 nH