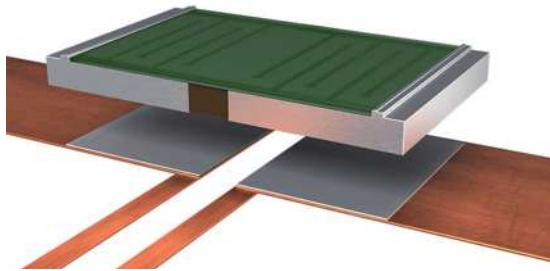




ISA-PLAN® // PRECISION RESISTORS



SMK // Size 1206



Features

- 1 W power rating at 110 °C
- Constant current up to 11 A (8 mOhm)
- Excellent long-term stability
- High pulse power rating
- Mounting: Reflow-, and IR-soldering
- RoHS 2011/65/EU compliant
- AEC-Q200 qualified



Applications

- Current sensor for power hybrid applications
- Control systems for the automotive market
- Power modules
- Frequency converters
- Switch mode power supplies

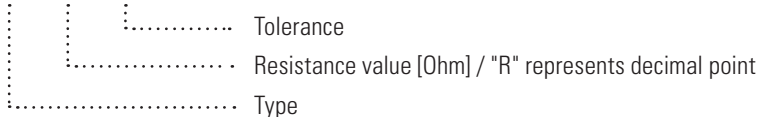
Technical data

Resistance values	mOhm	8 to 500
Tolerance	%	1* / 5
Temperature coefficient (20-60 °C)	ppm/K	R < 15 mΩ : < 100 R ≥ 15 mΩ : < 50
Applicable temperature range	°C	-65 to +170
Power rating	W	1
Internal heat resistance (R _{thi})	K/W	< 60
Dielectric withstanding voltage	V AC/DC	200
Inductance	nH	< 3
Stability (Nominal load) deviation after 2000h		< 0.5 % (T _K =80 °C)
T _K = Terminal temperature		< 1.0 % (T _K =110 °C)

* from 10 mOhm

Ordering code

SMK - R010 - 5.0





SMK // Size 1206

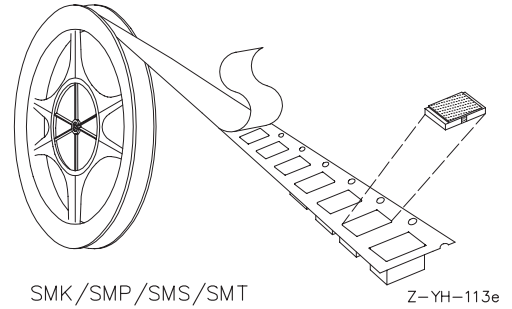
Recommended solder profile

Reflow- and IR-soldering				
Temperature	°C	260	255	217
Time	sec	peak	40	90

Tape and reel information

Specification		DIN EN 60286-3		
Tape width	mm	8		
Reel size	inch	13		
Parts per reel	pcs	12500		
Packaging weight	g	452		

With differing pcb-layout geometry it is possible that the measured resistance value can vary. Slight deformations during soldering do not affect technical properties of the component.



Available standard resistance values and tolerances*

Resistance values	Tolerance	
	1.0	5.0
R008		✓
R010	✓	✓
R020	✓	✓
R025	✓	
R033	✓	
R050	✓	✓
R100	✓	
R170	✓	
R200	✓	✓
R220	✓	
R360	✓	
R500	✓	

* Further values and tolerances on request

✓ = available

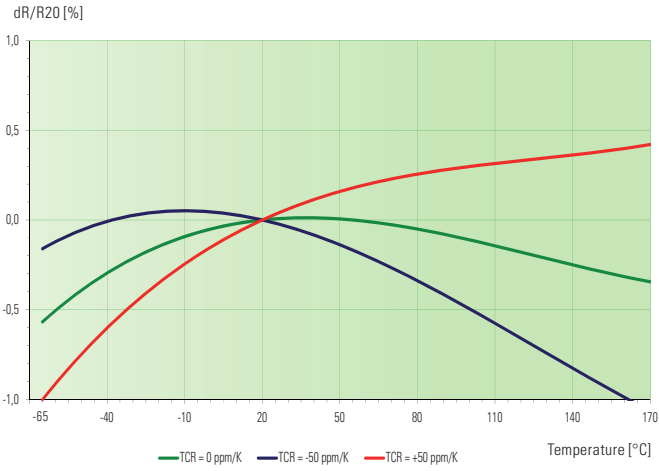
Specification

Parameters	Test conditions	Specified values
Temperature Cycling	2000 cycles (-55°C to +150°C)	±0.5 %
Low Temperature Storage and Operation	-65°C for 250 h	±0.1 %
Resistance to Soldering Heat	260°C for 10 sec / 8h steam aging	±0.3 %
Moisture Resistance	MIL-STD-202 method 106	±0.1 %
Mechanical Shock	100 g, 6 ms half sine	±0.1 %
Vibration, High Frequency	10 g, 10-2000 Hz, 24 h each axis	±0.1 %
Operational Life	2000 h, TK 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 %

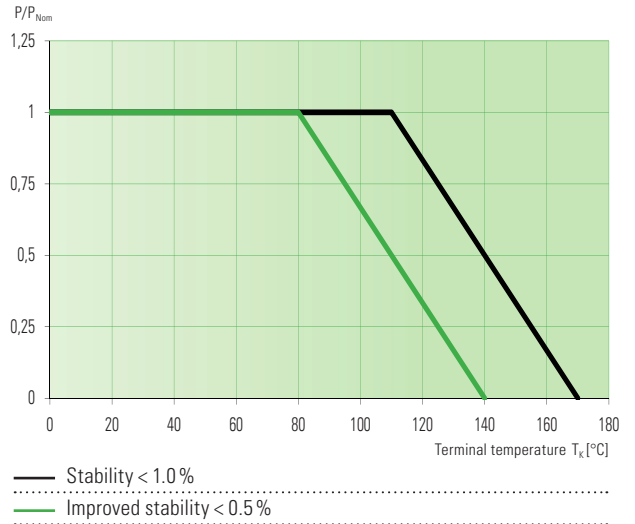


SMK // Size 1206

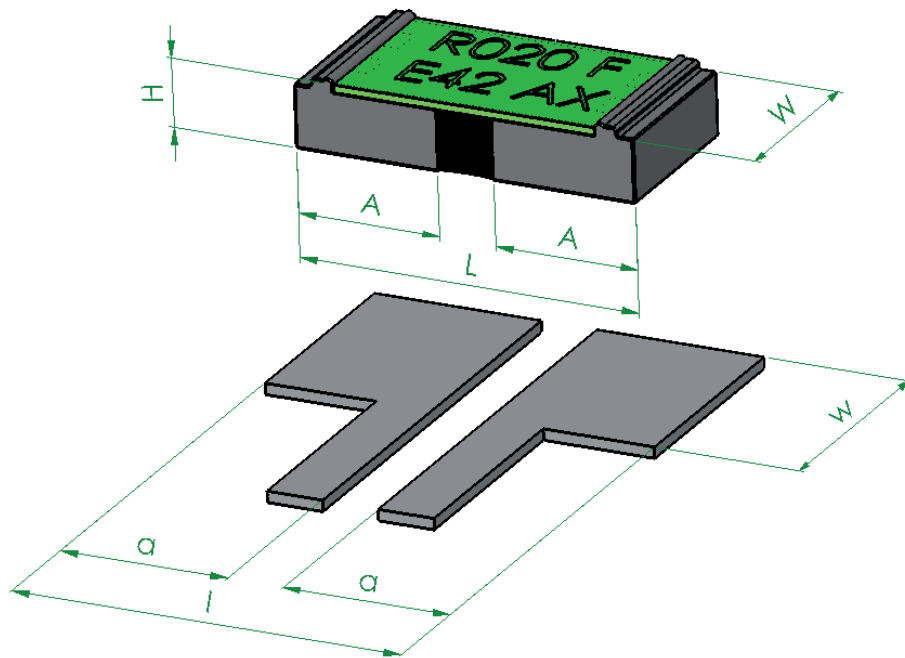
Temperature dependence of the electrical resistance of MANGANIN® resistors



Power derating curve



Mechanical dimensions [mm]



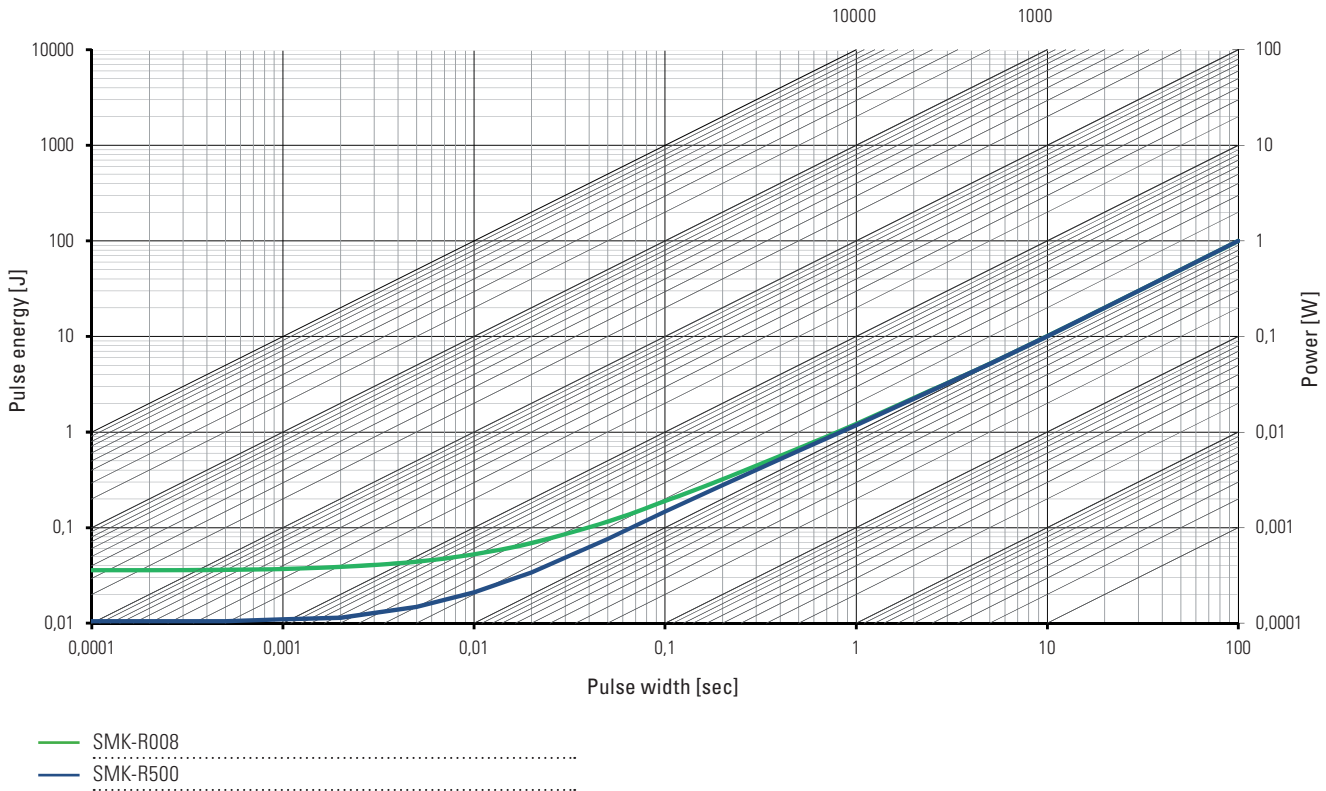
type:	L	W	A	H
SMK	3.05 ± 0.1	1.52 ± 0.1	(1.275)	0.5 ± 0.2

solder pad type:	l	w	a
SMK	3.5	2.0	1.5



SMK // Size 1206

Maximum pulse energy respectively pulse power for permanent operation



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.

