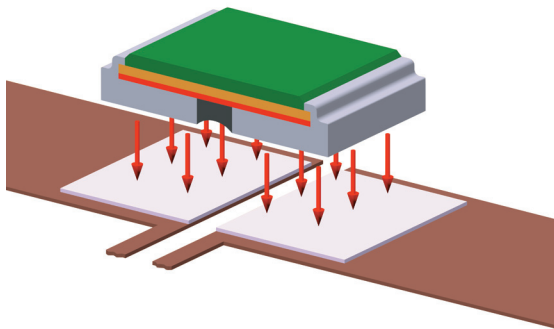




ISA-PLAN® // PRECISION RESISTORS



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



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	-55 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



SMK // Size 1206

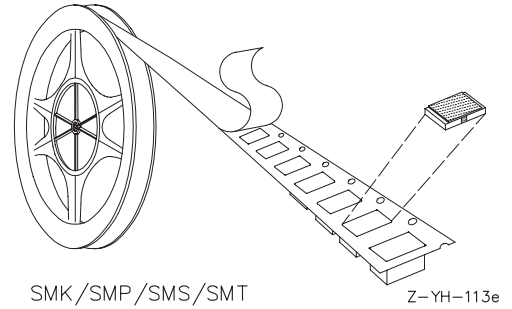
Recommended solder profile

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.



SMK/SMP/SMS/SMT

Z-YH-113e

Available standard resistance values and tolerances*

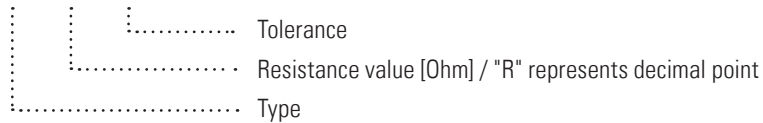
Resistance values	Tolerance	
	1.0	5.0
R008		✓
R010	✓	✓
R020	✓	✓
R025	✓	
R033	✓	
R050	✓	✓
R100	✓	
R170	✓	
R200	✓	✓
R220	✓	
R360	✓	
R500	✓	

* Further values and tolerances on request

✓ = available

Ordering code

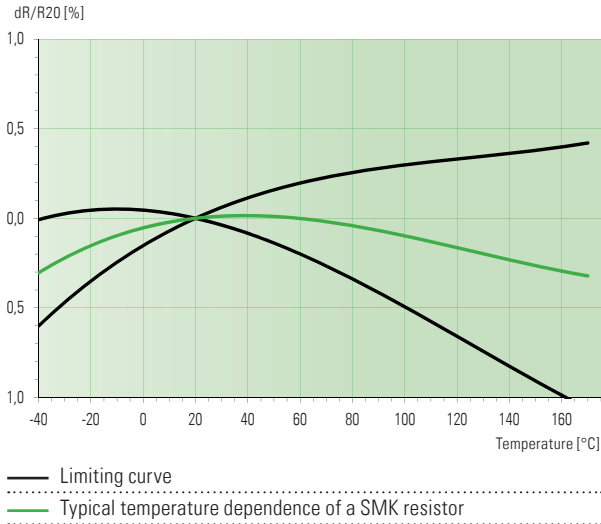
SMK - R010 - 5.0



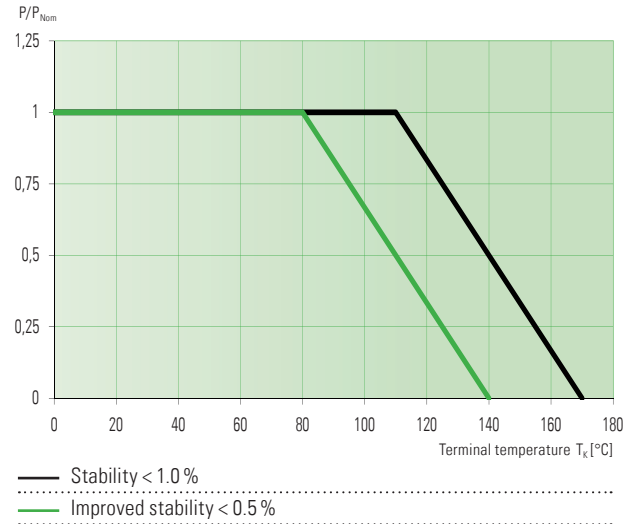


SMK // Size 1206

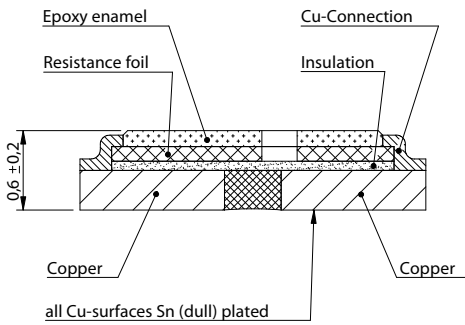
Temperature dependence of the electrical resistance of MANGANIN® resistors



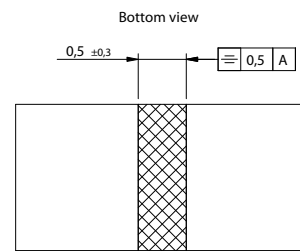
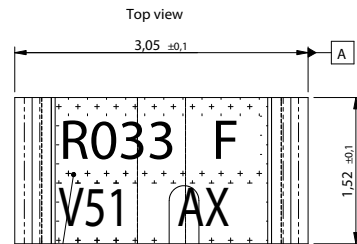
Power derating curve



Mechanical dimensions [mm]



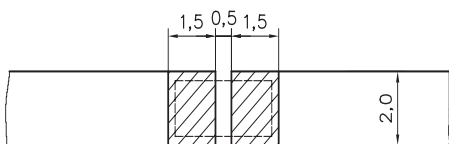
Z-DK-117d



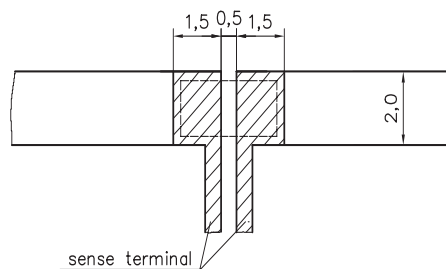
Z-DK-117d

Pcb-layout proposal (Reflow-soldering) [mm]

2 terminal connection



4 terminal connection



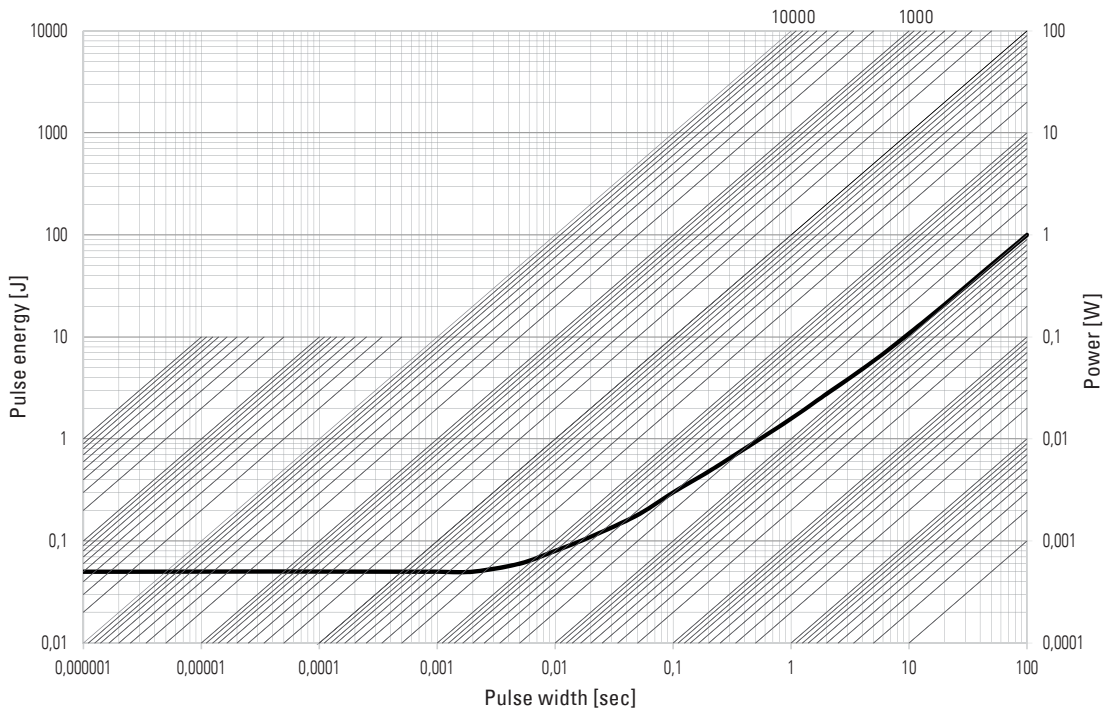
The measured resistance value may vary with differing pcb-layout geometries.

Z-YK-190a



SMK // Size 1206

Maximum pulse energy respectively pulse power for permanent operation



This curve is only valid for the resistance value R008.

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 24 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	20 g, 10-2000 Hz	±0.1 %
Operational Life	2000 h, TK max at nominal load	±1.0 %
High Temperature Exposure	2000 h / 170 °C	±1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5 %

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