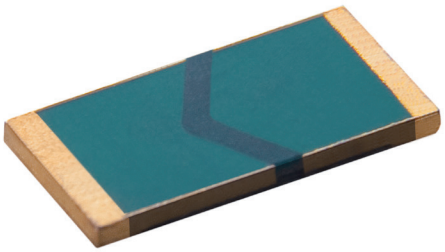
ISABELLENHÜTTE
Innovation by Tradition

ISA-PLAN® // PRECISION RESISTORS

VMK-NA // Au-plated
Size 1206



Features

- 1 W power rating at 110 °C
- Constant current up to 3 A (100 mOhm)
- Small size (1206)
- High pulse power rating
- Excellent long-term stability
- Mounting: conductive adhesive / soldering
- AEC-Q200 qualified
- RoHS 2011/65/EU compliant

RoHS

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**	100 *
Tolerance	**%**	1 *
Temperature coefficient (20-60 °C)	**ppm/K**	<20
Applicable temperature range	**°C**	-65 to +170
Power rating $P_{110\,°C}$	**W**	1
Power rating $P_{80\,°C}$	**W**	1.5
Internal heat resistance (R_{thi})	**K/W**	<60
Dielectric withstanding voltage	**V AC/DC**	200
Inductance	**nH**	<3
Stability (at rated power) deviation after 2000h, T_K = Terminal temperature		<0.5 % (T_K=80 °C) <1.0 % (T_K=110 °C)

* Further values and tolerances on request

Ordering code

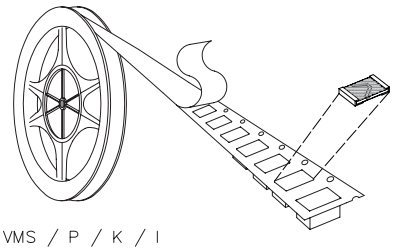
VMK - R100 - 1.0 - NA

- Au-plated
- Tolerance
- Resistance value [Ohm] / „R" represents decimal point
- Type

VMK-NA // Size 1206

Recommended solder profile

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



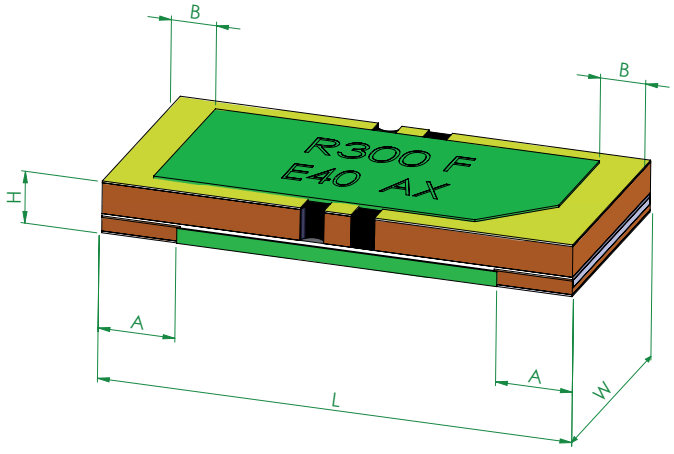
Tape and reel information

Specification		DIN EN 60286-3
Tape width	**mm**	8
Reel size	**inch**	13
Parts per reel	**pcs**	12500
Packaging weight net	**g**	454

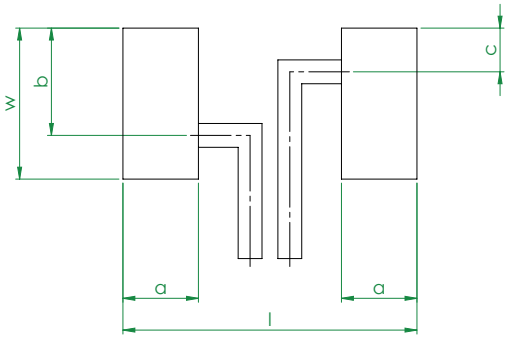
Specification (*parts tested at soldered condition)

Parameters	**Test conditions**	**Specified values ***
Temperature Cycling	2000 cycles (-55 °C to +150 °C)	±0.5 %
Low Temperature Storage	-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	±0.5 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	10 g, 10-2000 Hz, 24 h each axis	±0.2 %
Operational Life	2000 h, T_K max at rated power	±1.0 %, T_K = 110 °C
High Temperature Exposure	2000 h / 170 °C	±1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h, powered	±0.5 %

Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm] // drawing Z-YK-614a



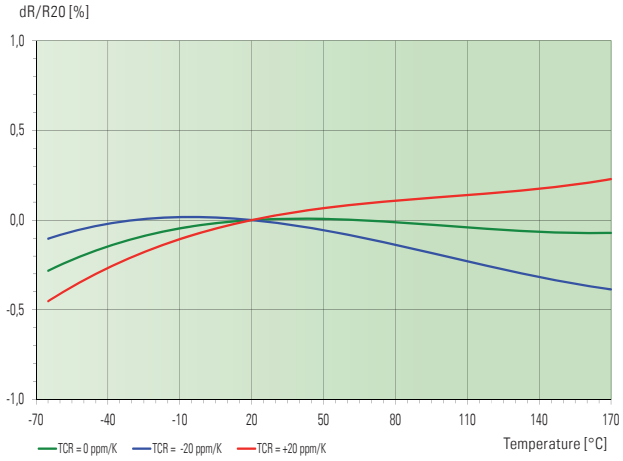
type:	L	W	H	A	B
VMK-NA	3.05 ±0.2	1.52 ±0.2	0.37 ±0.15	0.5 ±0.15	0.3 ±0.15



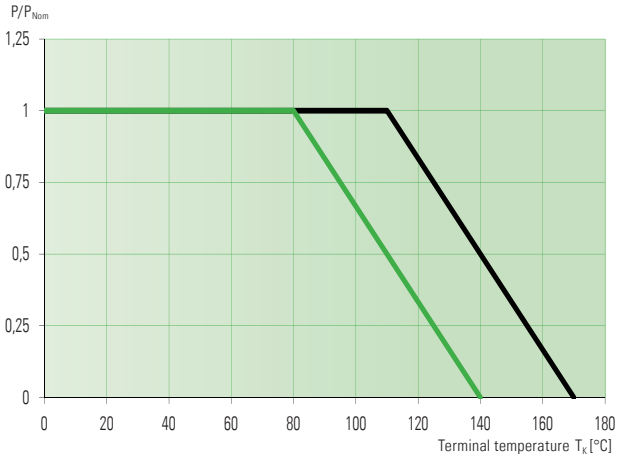
solder pad type:	l	w	a	b	c
VMK-NA	3.7	1.9	0.95	1.35	0.55

VMK-NA // Size 1206

Temperature dependence of the electrical resistance



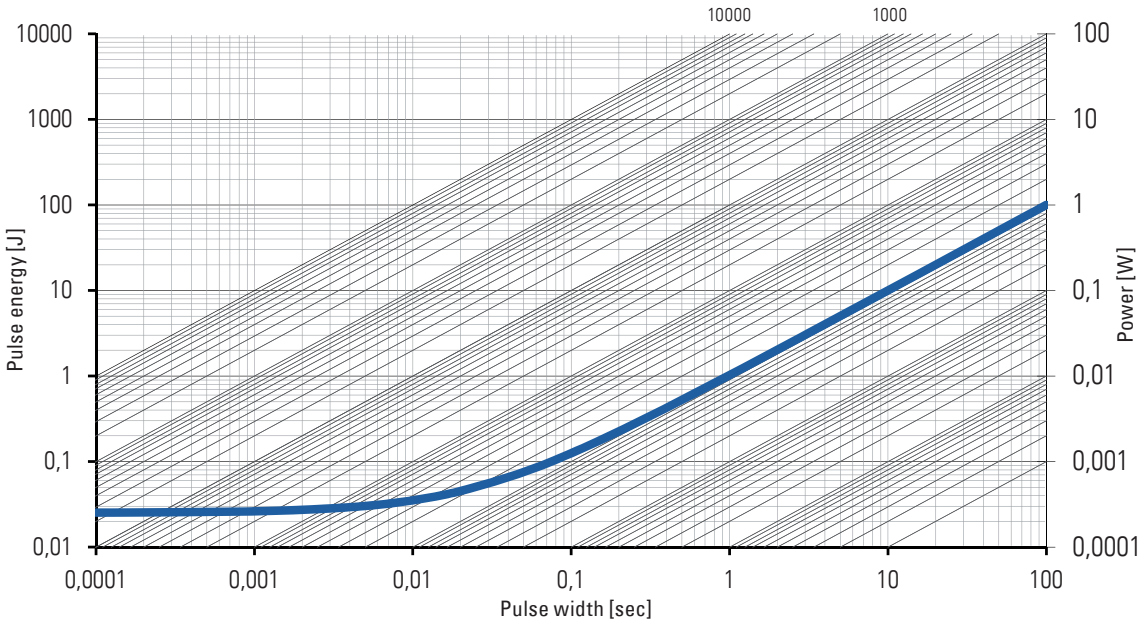
Power derating curve



Stability < 1.0 %

Improved stability < 0.5 %

Maximum pulse energy respectively pulse power for permanent operation



This curve is only valid for the resistance value R100. The shape of the curve in the range below 0.1 sec will be different for other resistance values. Therefore a separate qualification should be made for pulse power close to the above curve.