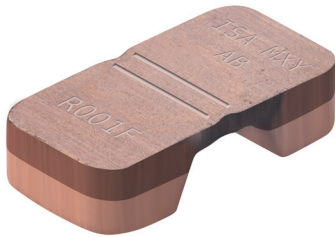




PRECISION RESISTORS



WAK // Size 1206



Features

- Constant current up to 90 A (0.5 mOhm)
- 4 W power rating up to 150 °C
- Two terminal configuration
- Excellent long-term stability
- High application temperature range -65 to +175 °C
- RoHS 2011/65/EU compliant
- Max. solder temperature up to 350 °C / 30 sec
- AEC-Q200 qualification in process



Applications

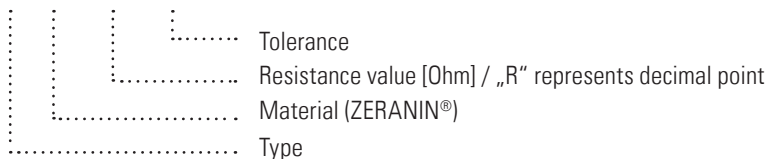
- Current sensor for power hybrid applications
- High current applications for the automotive market
- Frequency converters
- Power modules

Technical data

Resistance values	mOhm	1	0.5
Material		ZERANIN®	
Tolerance	%	1 / 5	
Temperature coefficient (20-60 °C)	ppm/K	<100	<130
Applicable temperature range	°C	-65 to +175	
Power rating P_{150 °C}	W	2	4
Power rating P_{70 °C}	W	6	6
Internal heat resistance (R _{thi})	K/W	12	6
Inductance	nH	<0.5	
Stability (at rated power) deviation after 2000h, T _K = Terminal temperature		<0.5% (T _K =110 °C) <1.0% (T _K =150 °C)	

Ordering code

WAK - Z - R001 - 1.0



Information

WAK-Z-R0005-1.0	C-samples available
WAK-Z-R001-1.0	C-samples available, AEC-Q200 qualified



WAK // Size 1206

Recommended solder profile

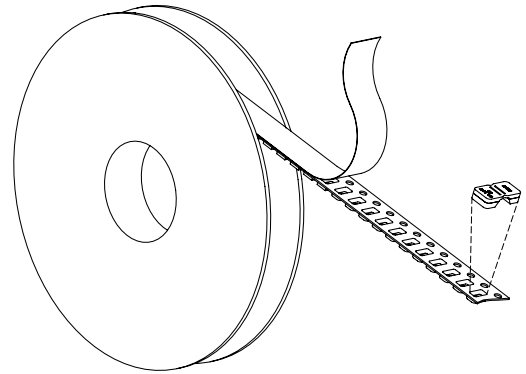
Reflow- and IR-soldering				
Temperature	°C	260	255	217
Time	sec	peak	40	90

Note: we recommend to use 10% less solder paste during screen process, for optimal flow during the soldering process.

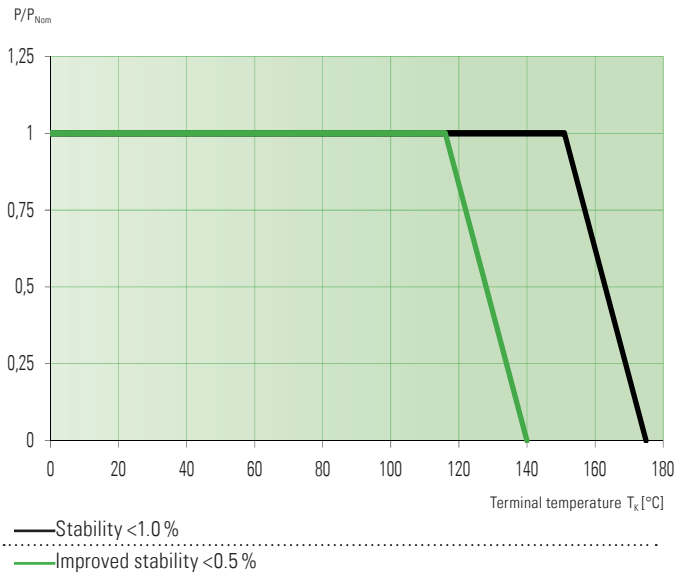
Tape and reel information

Specification	DIN EN 60286-3			
Tape width	mm	12		
Parts per reel	pcs	12500		

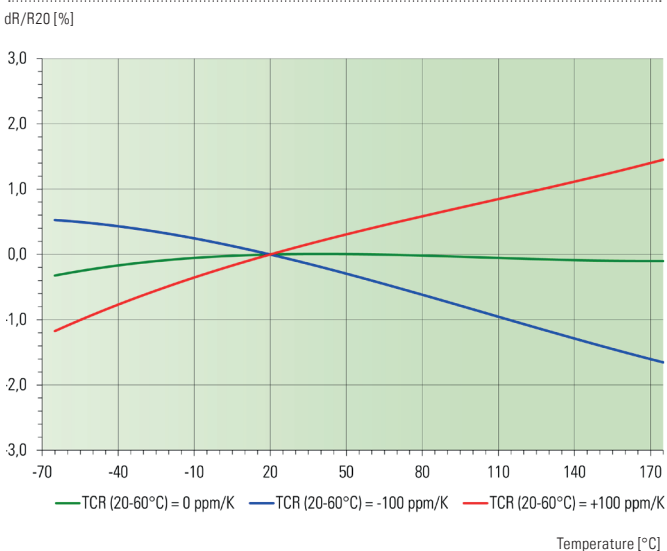
Note: parts are not marked



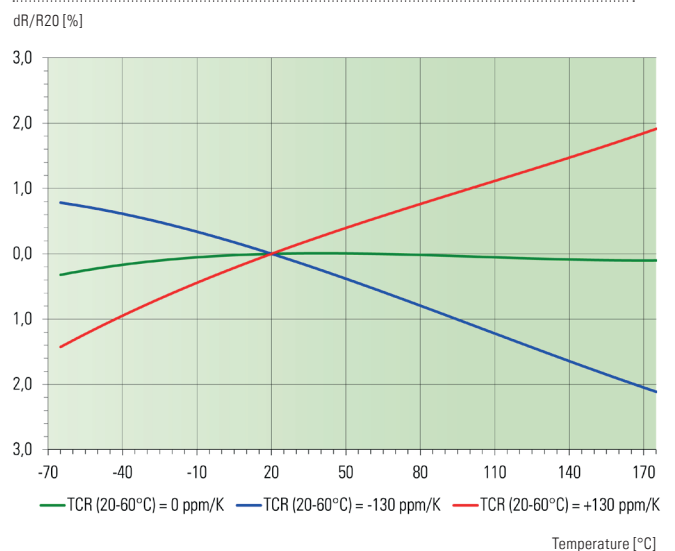
Power derating curve



Temperature dependence of the electrical resistance of ZERANIN® for WAK-Z-R001



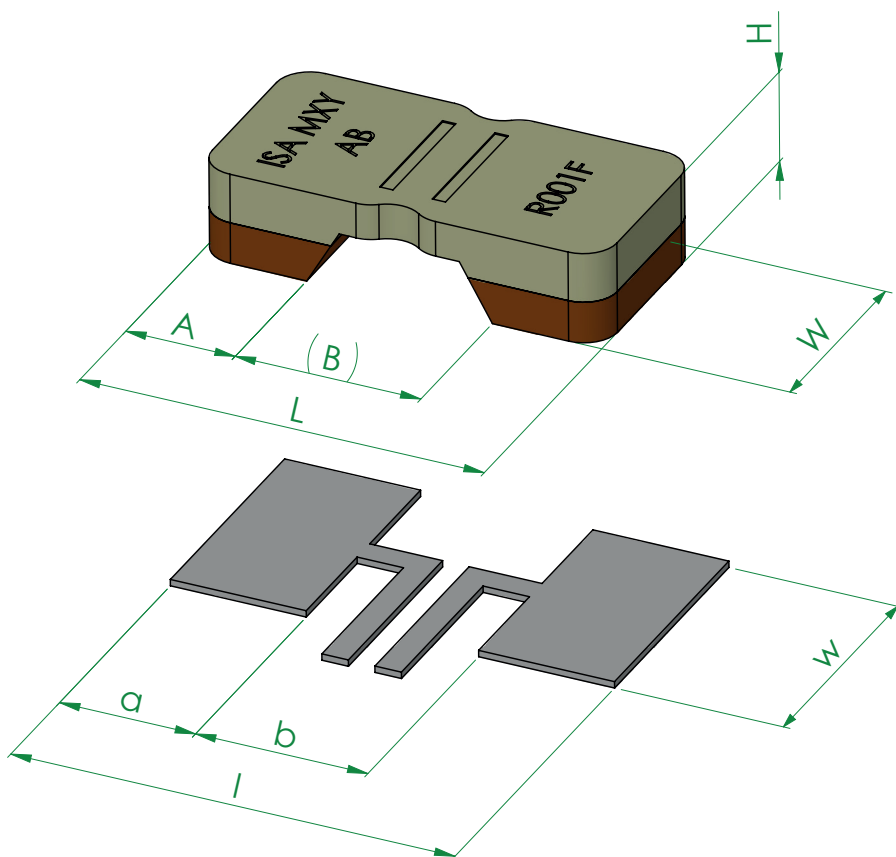
Temperature dependence of the electrical resistance of ZERANIN® for WAK-Z-R0005





WAK // Size 1206

Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm] // Z-YM-358d



type:	L	W	H	A	B
WAK-Z-R0005-1.0	3.05 ±0.2	1.52 ±0.2	0.833 +0.2/-0.1	0.97 ±0.2	1.10 ±0.2
WAK-Z-R001-1.0	3.05 ±0.2	1.52 ±0.2	0.7 +0.2/-0.1	0.86 ±0.2	1.40 ±0.2

solder pad type:	l	w	a	b
WAK	3.35	1.82	1.025	1.3

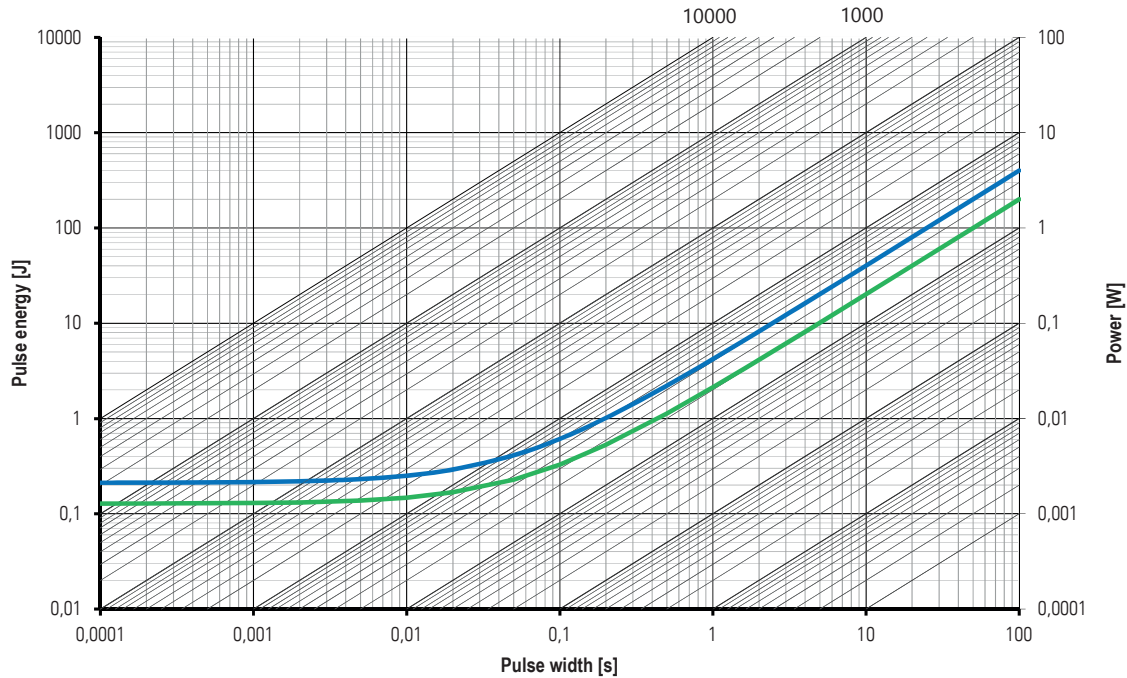


WAK // Size 1206

Maximum pulse energy respectively pulse power for permanent operation

WAK-Z-R0005; WAK-Z-R001

Maximum pulse energy / power continuous operation ($T_K = 145\text{ °C}$)



Specification

Parameters	Test conditions	Specified values
Temperature Cycling	2000 cycles (-65 °C to +170 °C)	±1.0 %
Low Temperature Storage and Operation	-65 °C for 250 h	±0.1 %
Resistance to Soldering Heat	260 °C for 10 sec / 8h steam aging	n.a.
Moisture Resistance	MIL-STD-202 method 106	±0.2 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	10 g, 10-2000 Hz	±0.2 %
Operational Life	2000 h, T_K max at rated power	±1.0 %, $T_K = 150\text{ °C}$ (in covered condition)
High Temperature Exposure	2000 h / 175 °C	±1.0 % (in covered condition)
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.5 %

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