



ISABELLENHÜTTE

Innovation by Tradition

ISA-PLAN® // PRECISION RESISTORS

GMP // Size 2010



Features

- Flip chip assembly
- Au-plated terminals
- 1 W permanent power at 110 °C
- Constant current up to 10 A
- Small size (2010)
- High pulse power rating
- Excellent long-term stability
- Mounting: conductive adhesive
- Resistor with Kelvin connection
- AEC-Q200 qualification
- RoHS 2011/65/EU compliant



Applications

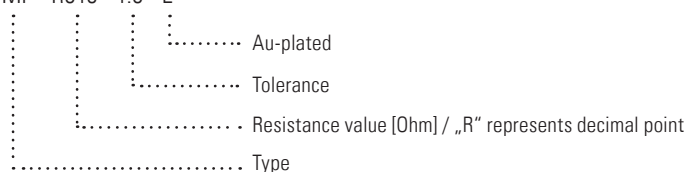
- Current sensor for power hybrid applications
- Control systems for the automotive market
- Power modules
- Frequency converters
- Switch mode power supplies

Technical data

Resistance values	mOhm	10 / 25 / 80
Tolerance	%	1 / 5
Temperature coefficient (20-60 °C)	ppm/K	<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	<2
Stability (Nominal load) deviation after 2000h, T _K = Terminal temperature		<0.5 % (T _K =80 °C) <1.0 % (T _K =110 °C)

Ordering code

GMP - R010 - 1.0 - E

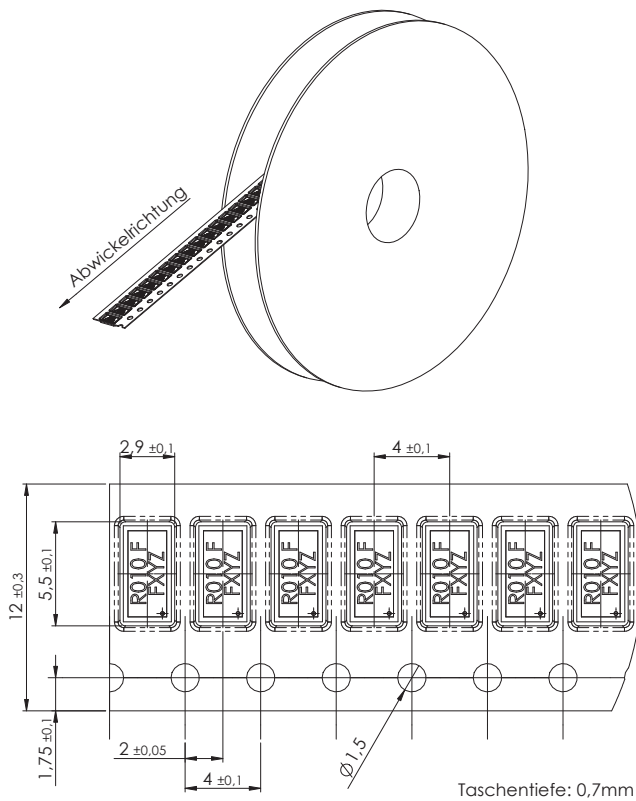




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Tape and reel information

Specification		DIN EN 60286-3
Tape width	mm	12
Reel size	inch	13
Parts per reel	pcs	12500
Packaging weight	g	481



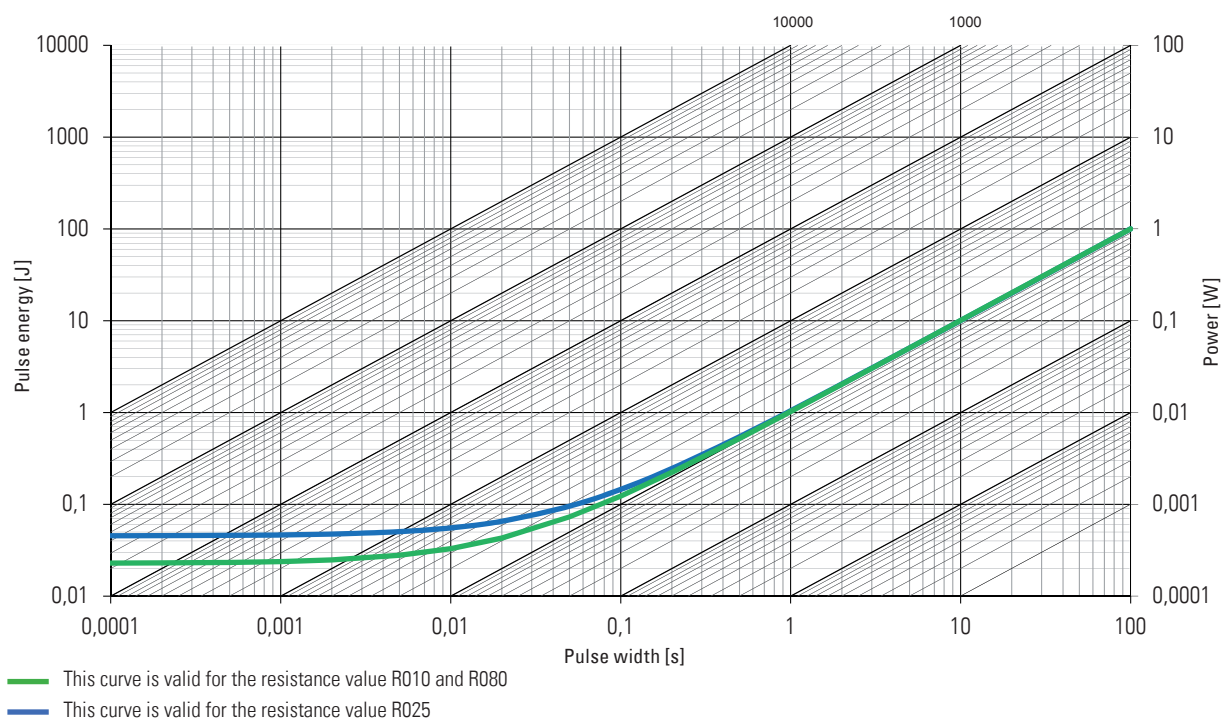
Specification in process (*parts tested at soldered condition)

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	±0.2 %
Moisture Resistance	MIL-STD-202 method 106	±0.5 %
Mechanical Shock	100 g, 6 ms, 36 pulse	±0.1 % (3 axis)
Vibration, High Frequency	10 g, 10-2000 Hz, 24 h each axis	±0.2 %
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., 10 % Bias	±0.7 %

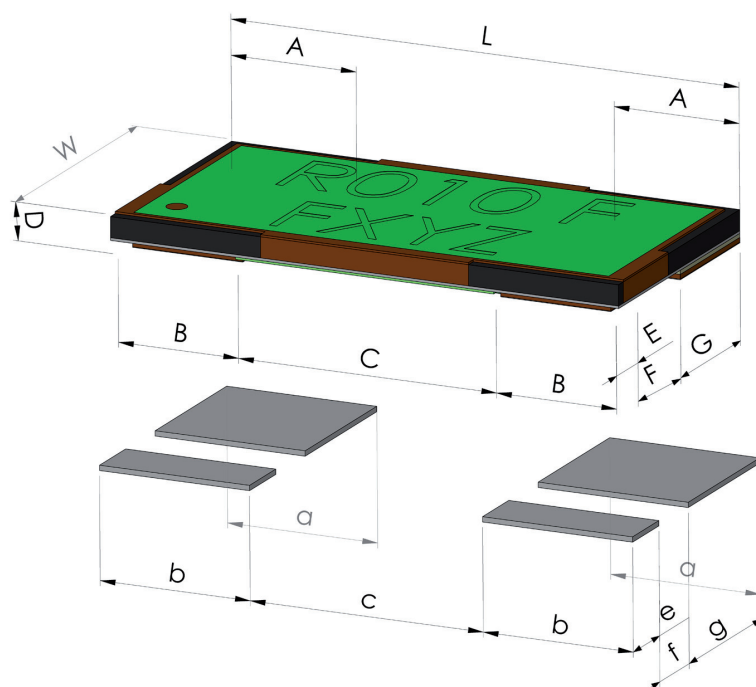


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Maximum pulse energy respectively pulse power for permanent operation



Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm], acc. drawing Z-YF-141



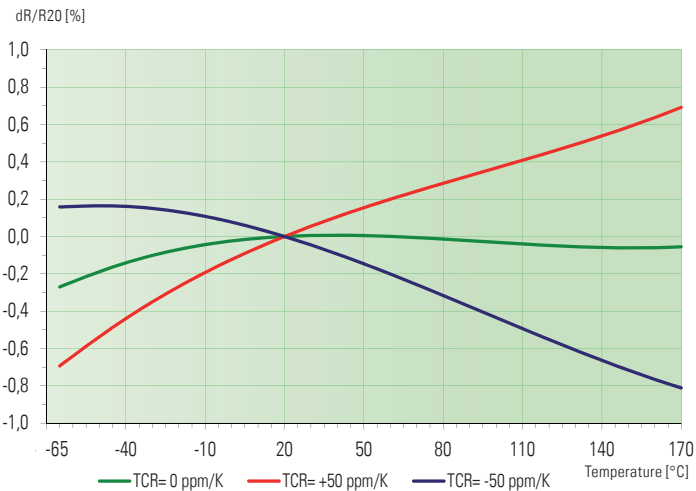
type:	L	W	A	B	C	D	E	F	G
GMP*	5.08	2.54	1.25	1.1	(2.58)	0.37	0.45	(0.69)	1.25

solder pad:	a	b	c	e	f	g
GMP	1.5	1.5	(2.33)	0.5	0.62	1.5

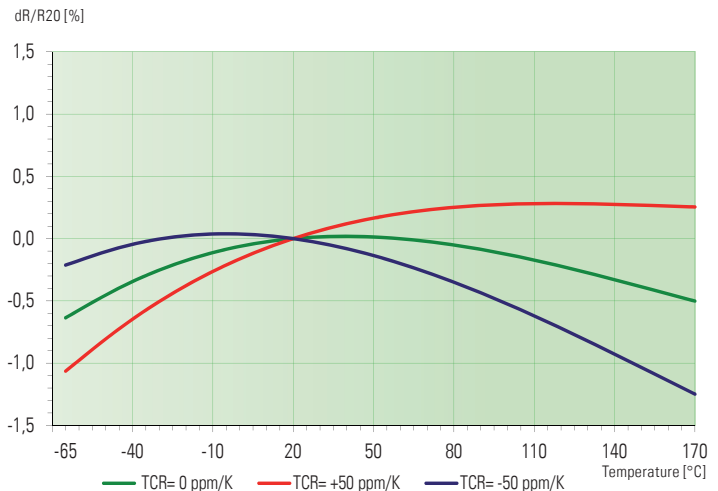
* Detail drawing on request



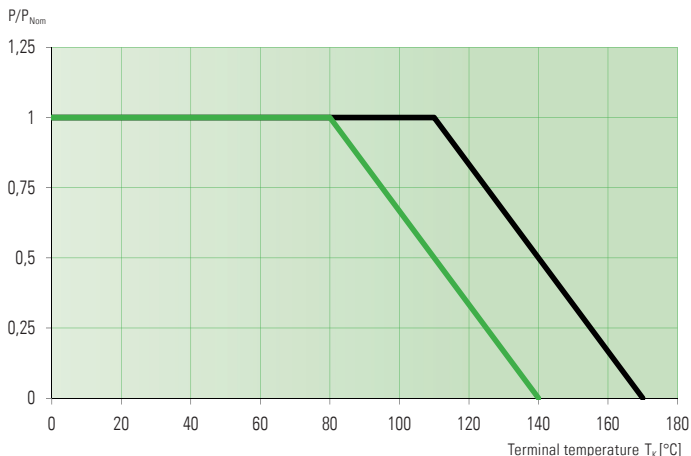
Temperature dependence of the electrical resistance of ZERANIN® for parts with 10 and 25 mOhm



Temperature dependence of the electrical resistance of MANGANIN® for parts with 80 mOhm



Power derating curve



— Stability <1.0 %
 — Improved stability <0.5 %

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