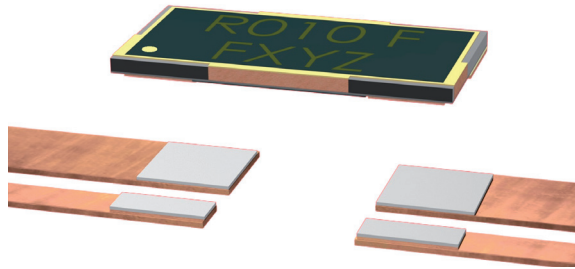




## ISA-PLAN® // PRECISION RESISTORS



### 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

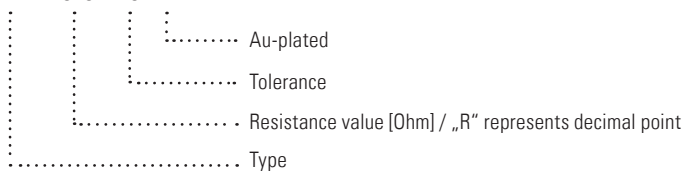
- Current sensor for power hybrid applications
- Control systems for the automotive market
- Power modules
- Frequency converters
- Switch mode power supplies

#### Technical data

Resistance values	<b>mOhm</b>	10 / 25 / 80
Tolerance	<b>%</b>	1 / 5
Temperature coefficient (20-60 °C)	<b>ppm/K</b>	<50
Applicable temperature range	<b>°C</b>	-65 to +170
Power rating	<b>W</b>	1
Internal heat resistance (R <sub>thi</sub> )	<b>K/W</b>	<60
Dielectric withstanding voltage	<b>V AC/DC</b>	200
Inductance	<b>nH</b>	<2
Stability (Nominal load) deviation after 2000h, T <sub>K</sub> = Terminal temperature		<0.5 % (T <sub>K</sub> =80 °C) <1.0 % (T <sub>K</sub> =110 °C)

#### Ordering code

GMP - R010 - 1.0 - E

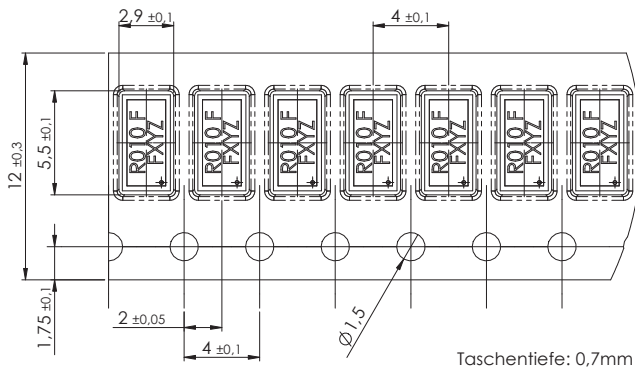
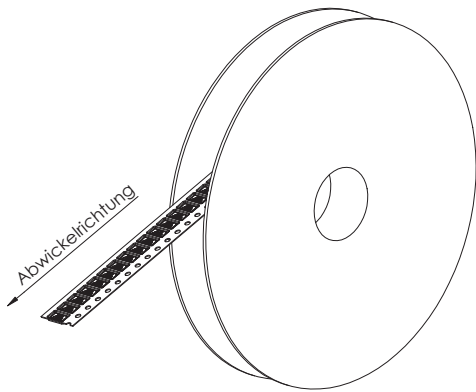




GMP // Size 2010

**Tape and reel information**

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



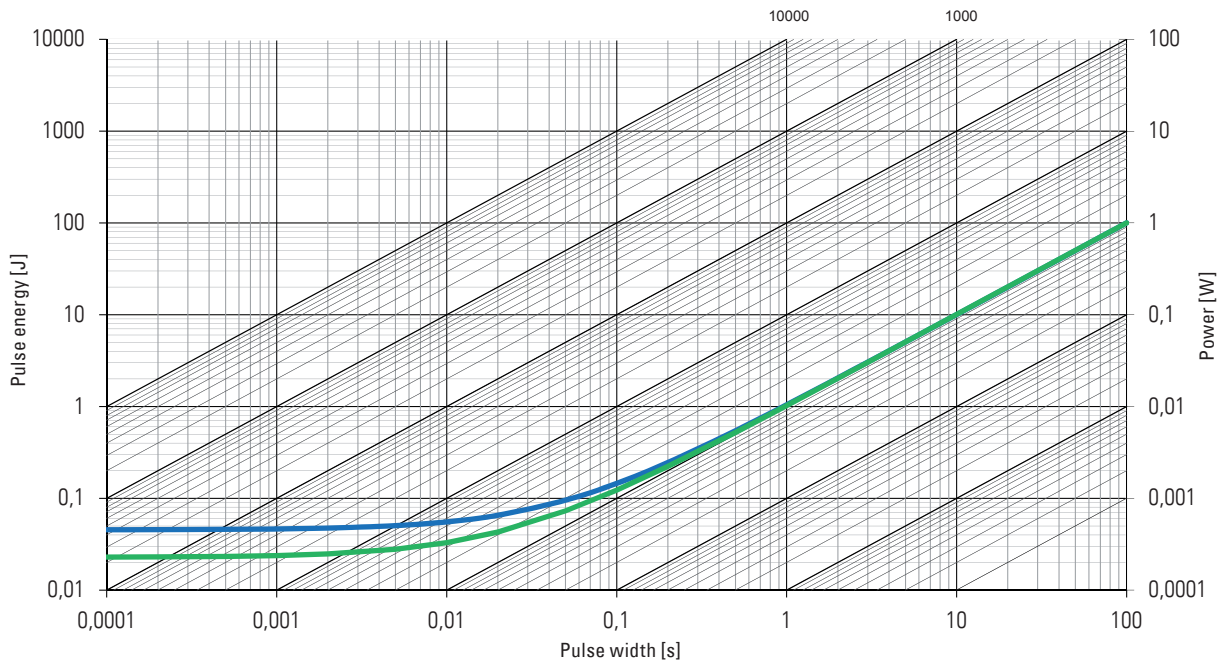
**Specification in process (\*parts tested at soldered condition)**

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 %



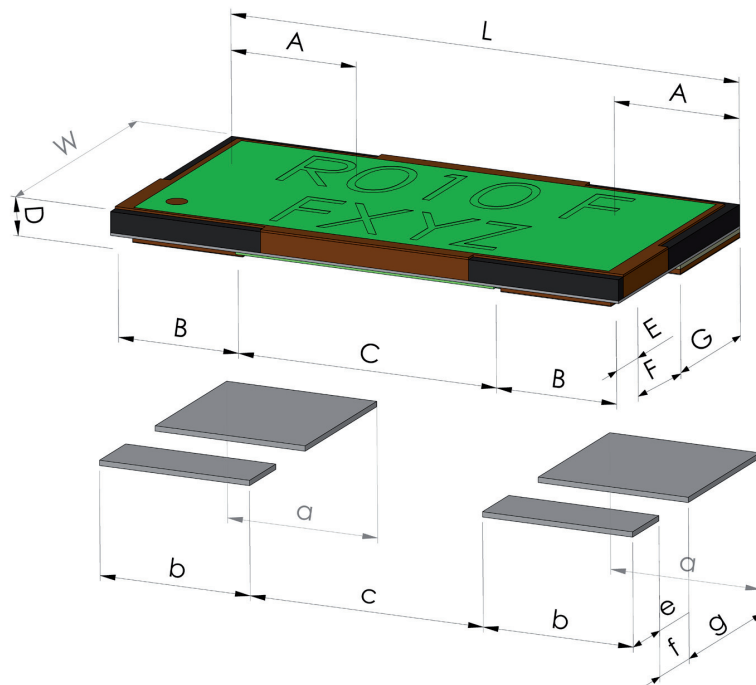
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Maximum pulse energy respectively pulse power for permanent operation



— This curve is valid for the resistance value R010 and R080  
 — This curve is valid for the resistance value R025

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

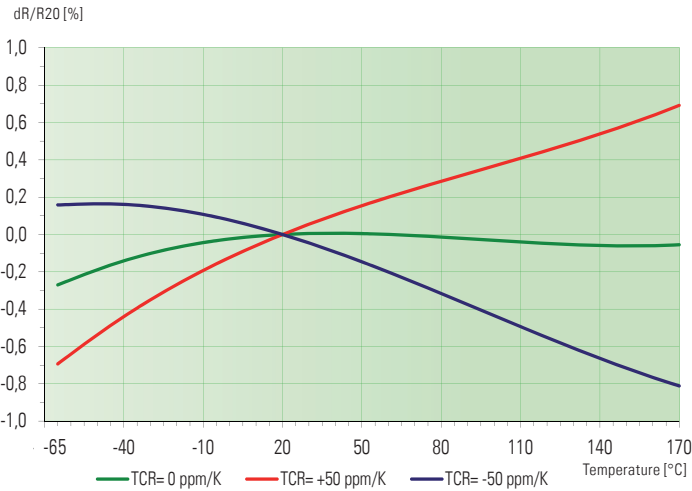
solder pad:	a	b	c	e	f	g
GMP	1.5	1.5	(2.33)	0.5	0.62	1.5

\* Detail drawing on request

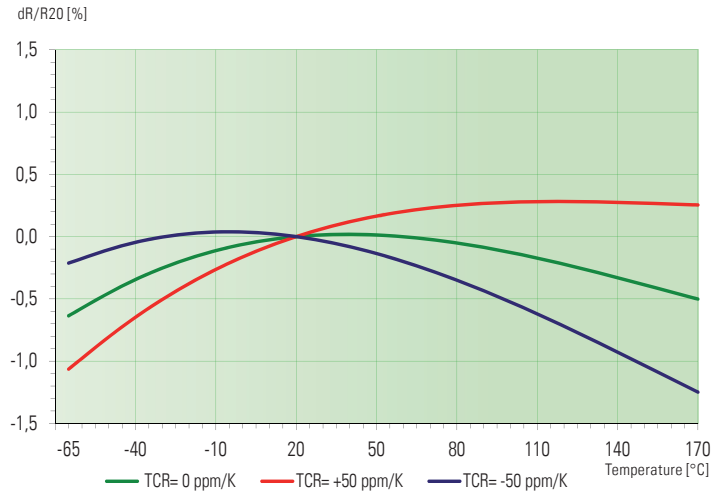


GMP // Size 2010

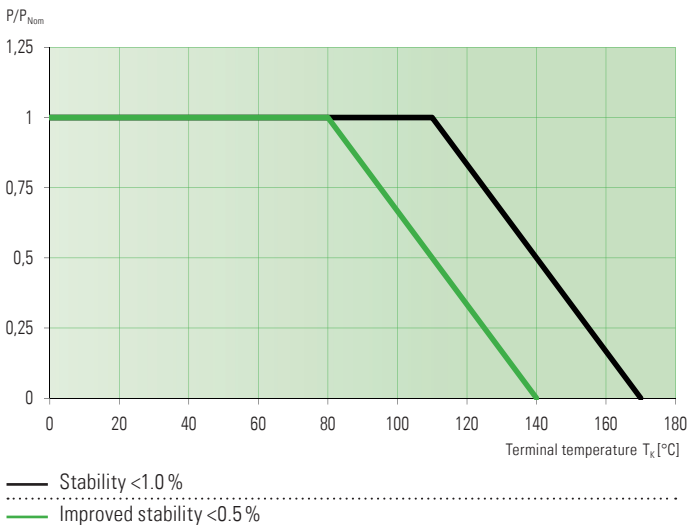
**Temperature dependence of the electrical resistance of ZERANIN® for parts with 10 and 25 mOhm**



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



**Power derating curve**



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