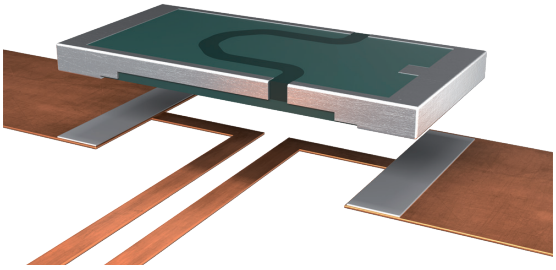
ISABELLENHÜTTE
Innovation by Tradition

ISA-PLAN® // PRECISION RESISTORS

CMP // Size 2010



Features

- 2 W power rating at 70 °C
- Constant current up to 14 A (10 mOhm)
- High pulse power rating
- Good long-term stability
- Mounting: Reflow-, and IR-soldering
- AEC-Q200 qualification in preparation
- 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
- Driver for LED light systems

Technical data

Resistance values	**mOhm**	10 to 250
Tolerance	**%**	1 / 5
Temperature coefficient (20-60 °C)	**ppm/K**	<75
Applicable temperature range	**°C**	-65 to +170
Power rating $P_{70\,°C}$	**W**	2
Power rating $P_{120\,°C}$	**W**	1
Internal heat resistance (R_{thi})	**K/W**	<50
Dielectric withstanding voltage	**V AC/DC**	200
Inductance	**nH**	<3
Stability ($P_{120\,°C}$) deviation after 2000h T_K = Terminal temperature		<1.0 % (T_K=120 °C)

Ordering code

CMP - R010 - 1.0

- 1.0 ..... Tolerance
- R010 ..... Resistance value [Ohm] / "R" represents decimal point
- CMP ..... Type

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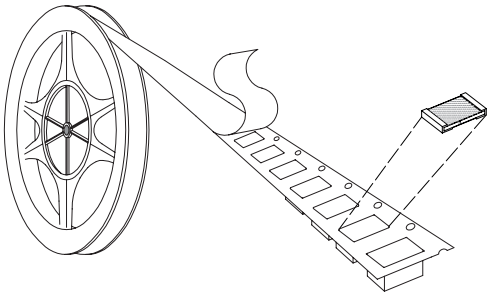
Recommended solder profile

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**	12
Reel size	**inch**	13
Parts per reel	**pcs**	12500
Packaging weight	**g**	481



Available standard resistance values and tolerances*

Resistance values	**Tolerance**	
	1.0	5.0
R010	✓	✓
R015	✓	✓
R020	✓	✓
R033	✓	
R050	✓	✓
R100	✓	✓
R250	✓	

* Further values and tolerances on request
✓ = available

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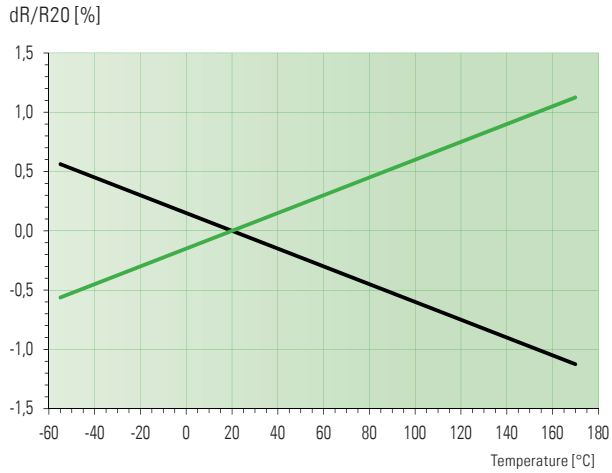
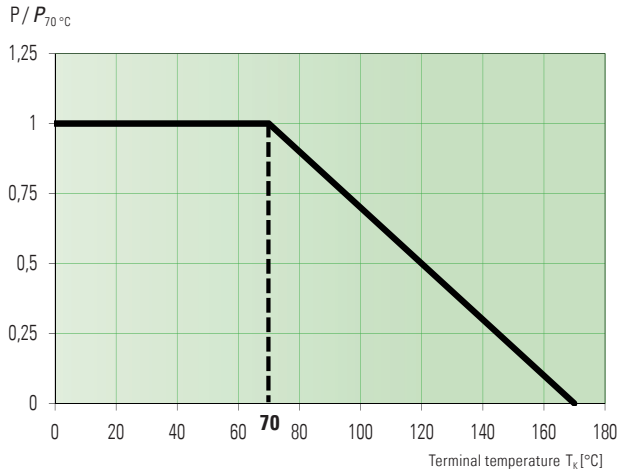
Temperature dependence of the electrical resistance of CMP resistors

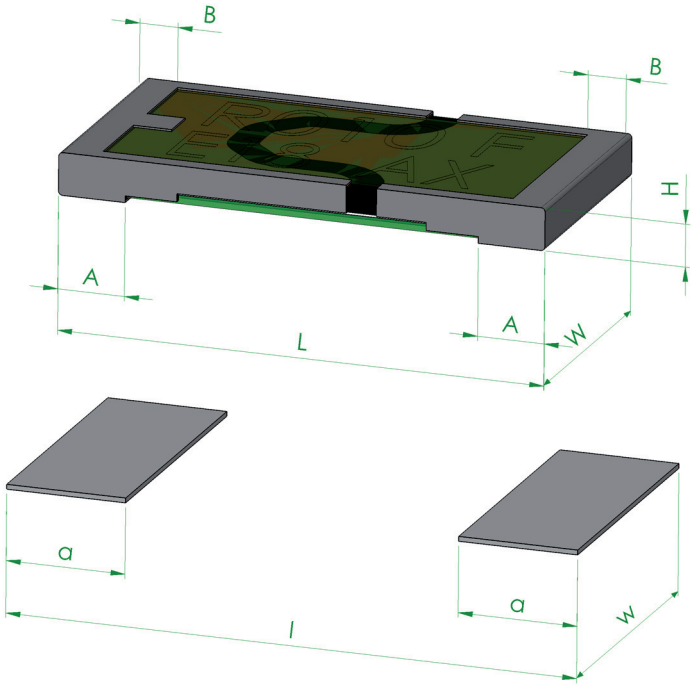


Limiting curve (minimum)
Limiting curve (maximum)

Power derating curve



Mechanical dimensions [mm]



Type	L	W	H	A	B
CMP	5.08 ±0.2	2.54 ±0.2	0.4 ±0.15	0.7 ±0.2	0.4 ±0.15

Solder pad type	l	w	a
CMP	6.0	3.0	1.25

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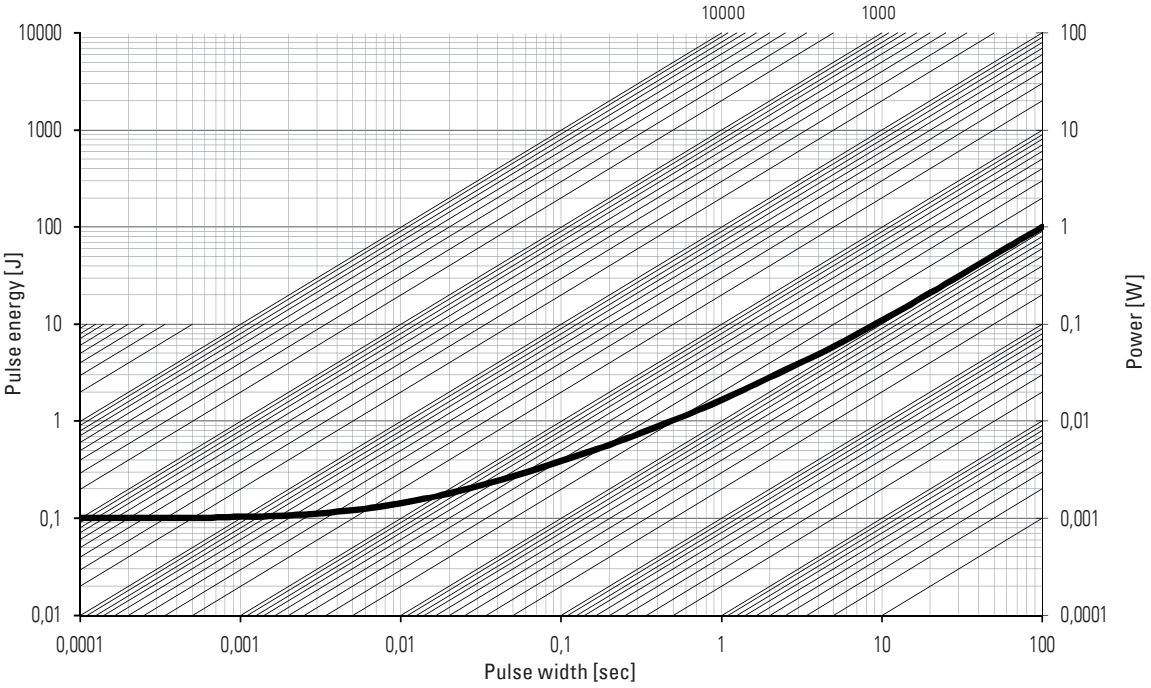
Maximum pulse energy respectively pulse power for permanent operation 120 °C



This curve is only valid for the resistance value R010.

Specification

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	±0.3 %
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 = 120 °C
High Temperature Exposure	2000 h / 170 °C	±1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h, powered	±0.5 %

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