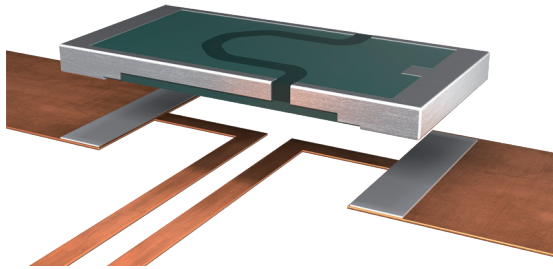




ISA-PLAN® // PRECISION RESISTORS



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 qualified
- 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
- Driver for LED light systems

Technical data

| | | |
|---|----------------|--------------------------------|
| Resistance values | mOhm | 10 to 500 |
| Tolerance | % | 1 / 5 |
| Temperature coefficient (20-60 °C) | ppm/K | <50 |
| 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

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



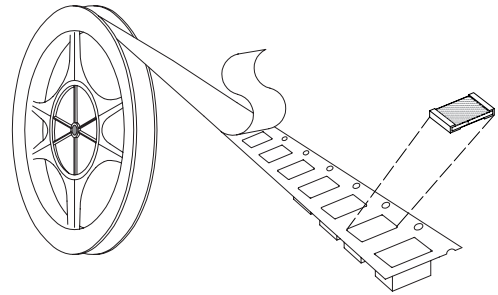
CMP // SIZE 2010

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 | ✓ | ✓ |
| R012* | | |
| R015 | ✓ | ✓ |
| R020 | ✓ | ✓ |
| R022* | | |
| R025* | | |
| R027* | | |
| R030* | | |
| R033 | ✓ | |
| R036* | | |
| R039* | | |
| R043* | | |
| R047* | | |
| R050 | ✓ | ✓ |
| R056* | | |
| R062* | | |
| R068* | | |
| R075* | | |
| R082* | | |

| Resistance values | Tolerance | |
|-------------------|-----------|-----|
| | 1.0 | 5.0 |
| R091* | | |
| R100 | ✓ | ✓ |
| R120* | | |
| R130* | | |
| R150 | ✓ | |
| R160* | | |
| R180* | | |
| R200 | ✓ | |
| R220* | | |
| R240* | | |
| R250 | ✓ | |
| R270* | | |
| R300* | | |
| R330* | | |
| R360* | | |
| R390* | | |
| R430* | | |
| R470* | | |
| R500 | ✓ | |

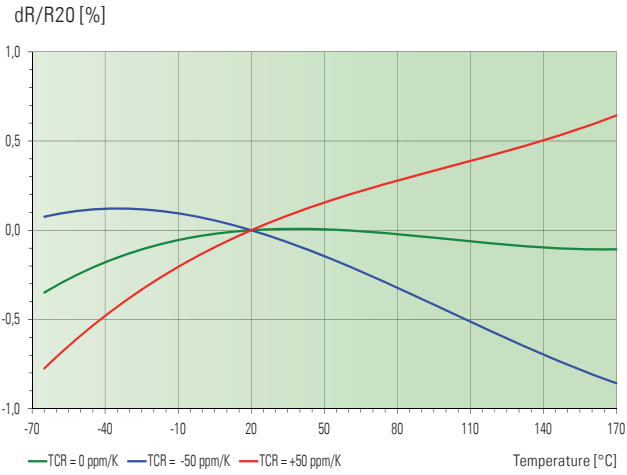
✓ = available

* Values and tolerances on request

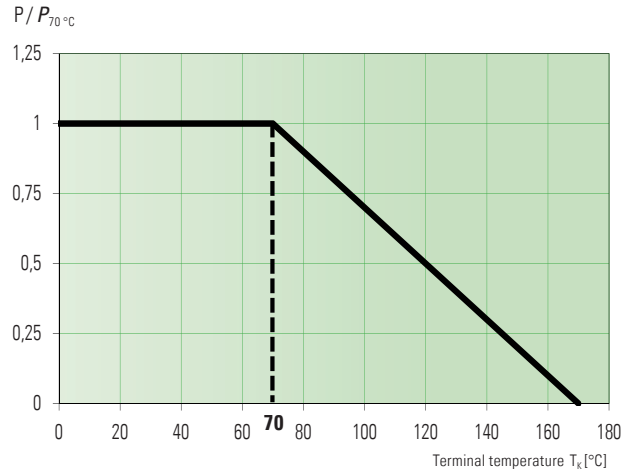


CMP // SIZE 2010

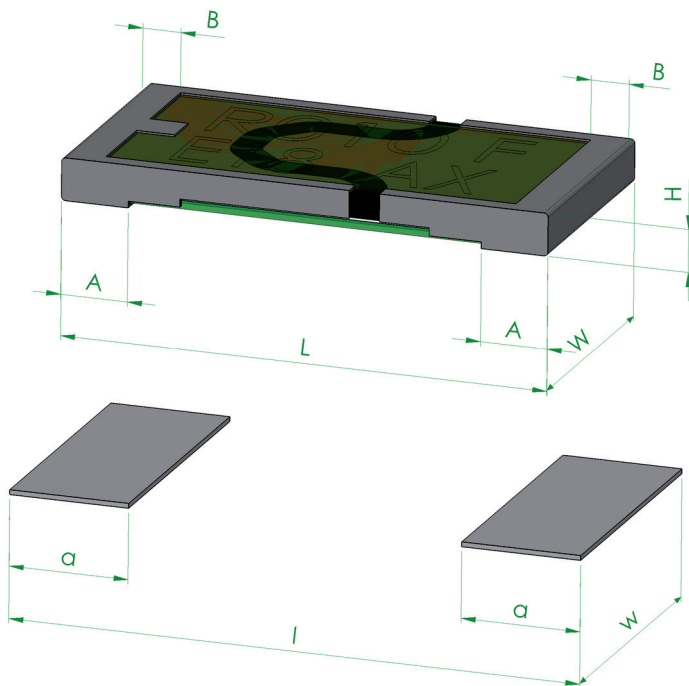
Temperature dependence of the electrical resistance of CMP resistors



Power derating curve



Mechanical dimensions [mm]



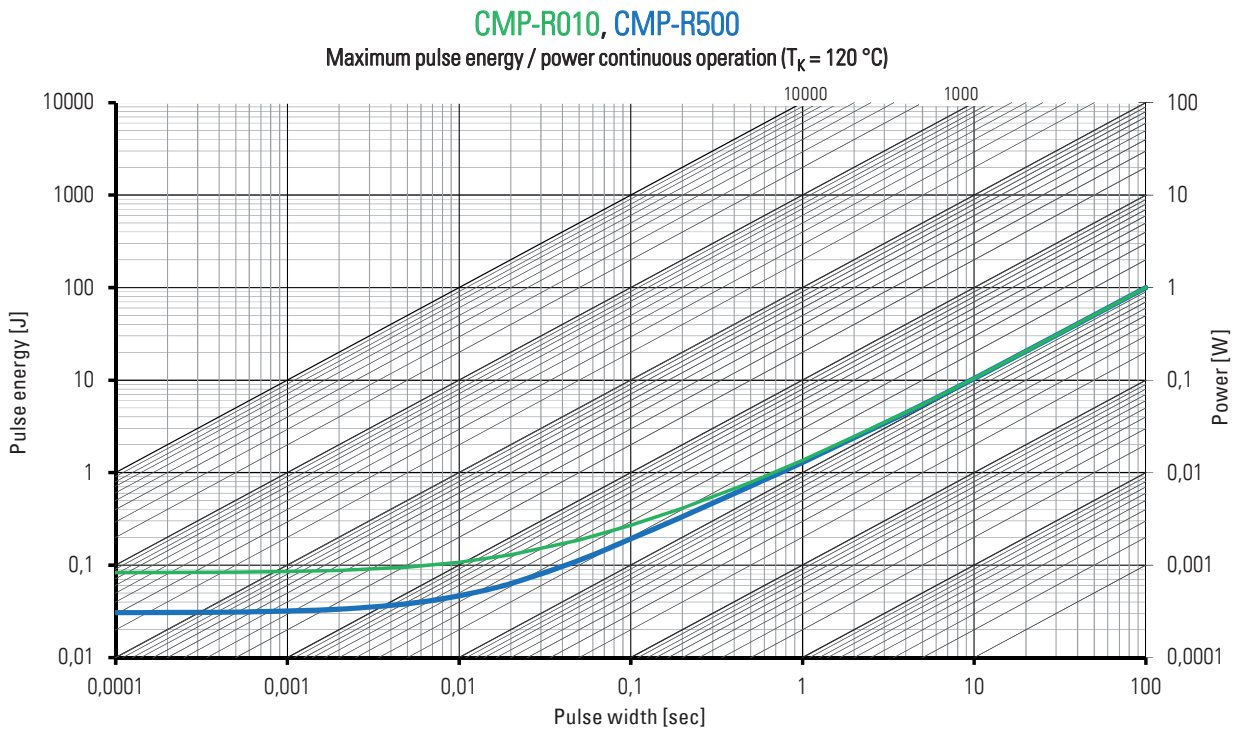
| Type | L | W | H | A | B |
|------|-----------|-----------|-----------|----------|-----------|
| CMP | 5.08 ±0.2 | 2.54 ±0.2 | 0.4 ±0.15 | 0.7 ±0.2 | 0.4 ±0.15 |

| Solder pad type | l | w | a |
|-----------------|-----|-----|------|
| CMP | 6.0 | 3.0 | 1.25 |



CMP // SIZE 2010

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



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 %, $T_K = 120\text{ °C}$ |
| 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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