



**THE DATASHEET OF  
CMS-R010-1.0**

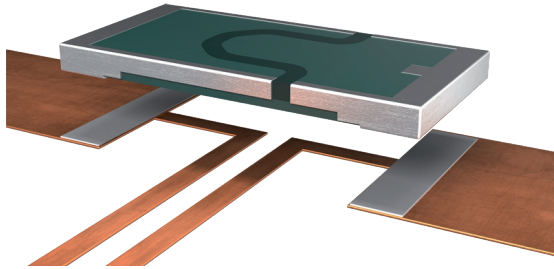




## ISA-PLAN® // PRECISION RESISTORS



### CMS // Size 2512



#### Features

- 2.5 W power rating at 70 °C
- Constant current up to 16 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	<b>mOhm</b>	10 to 500
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>P<sub>70 °C</sub></b>	<b>W</b>	2.5
Power rating <b>P<sub>100 °C</sub></b>	<b>W</b>	2
Internal heat resistance (R <sub>thi</sub> )	<b>K/W</b>	<35
Dielectric withstanding voltage	<b>V AC/DC</b>	200
Inductance	<b>nH</b>	<3
Stability ( <b>P<sub>100 °C</sub></b> ) deviation after 2000h T <sub>K</sub> = Terminal temperature		<1.0 % (T <sub>K</sub> =100 °C)

#### Ordering code

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



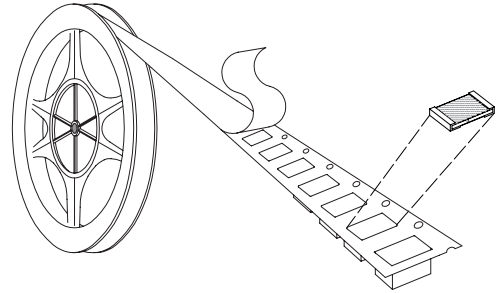
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**Recommended solder profile**

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	9000		
Packaging weight	g	539		



**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*		
R270*		
R300	✓	
R330*		
R360*		
R390*		
R430*		
R470	✓	
R500	✓	

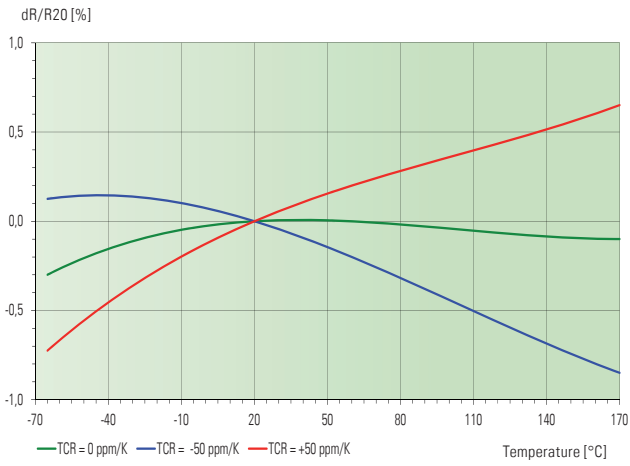
✓ = available

\* Values and tolerances on request

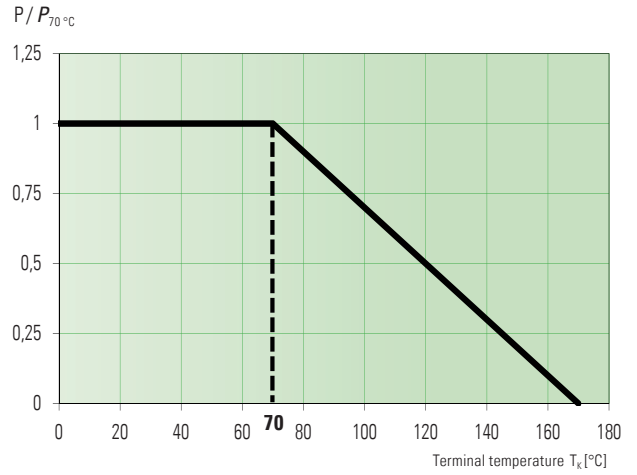


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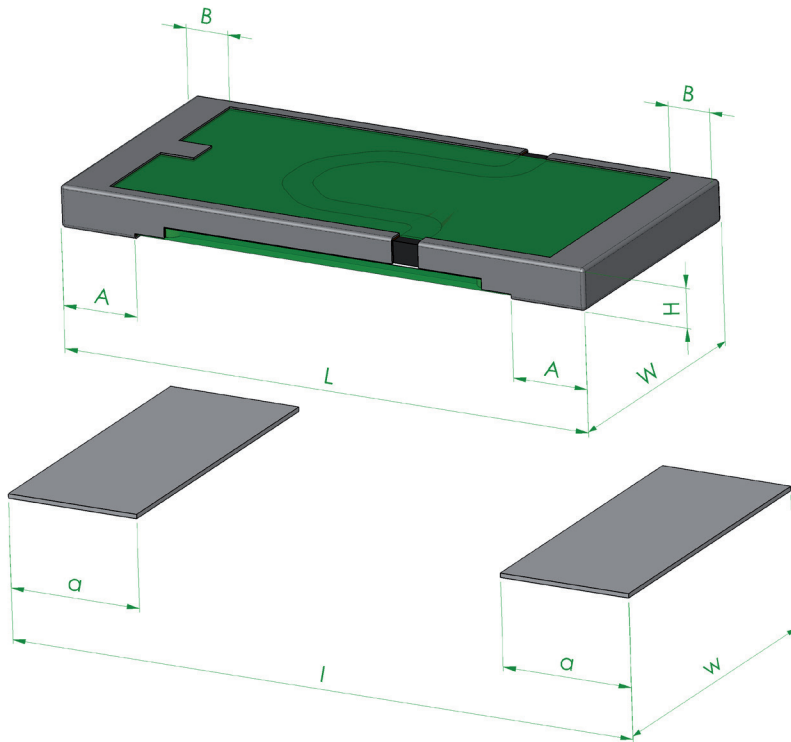
Temperature dependence of the electrical resistance of CMS resistors



Power derating curve



Mechanical dimensions [mm]



Type	L	W	H	A	B
CMS	6.35 ±0.3	3.05 ±0.2	0.4 ±0.15	0.9 ±0.2	0.5 ±0.2

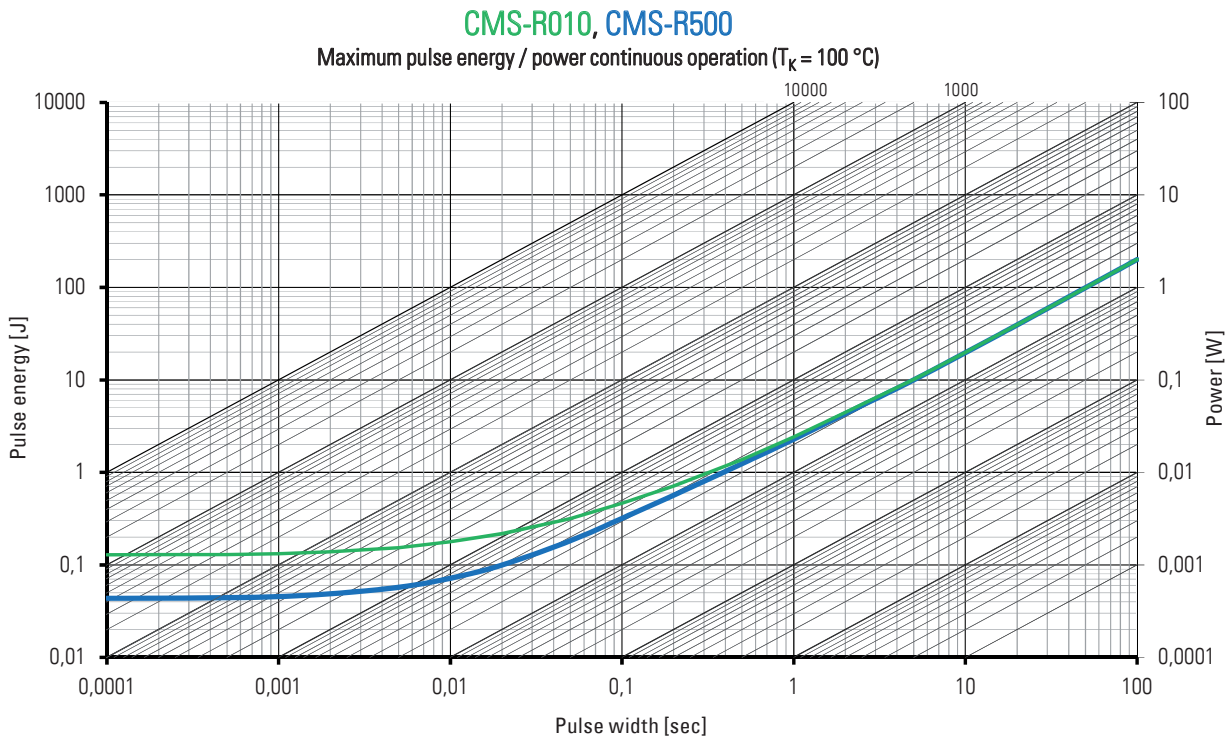
  

Solder pad type	l	w	a
CMS	7.5	3.6	1.55



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Maximum pulse energy respectively pulse power for permanent operation



**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 %, $T_K = 100\text{ °C}$
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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