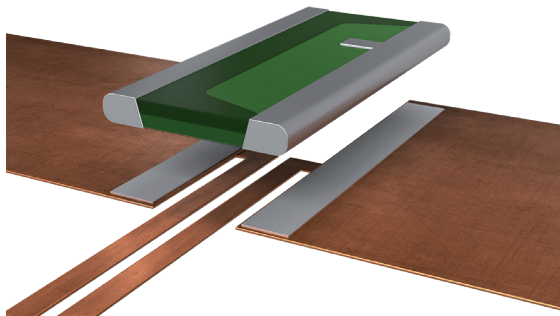




### CLK // Size 0612

### Preliminary version



#### Features

- Low resistance values from 3 mOhm
- 1 W power rating at 140 °C
- Constant current up to 18 A (3 mOhm)
- Excellent long-term stability
- High pulse power rating
- Mounting: Reflow- and IR-soldering
- RoHS 2011/65/EU compliant
- AEC-Q200 qualification in process



#### Applications

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

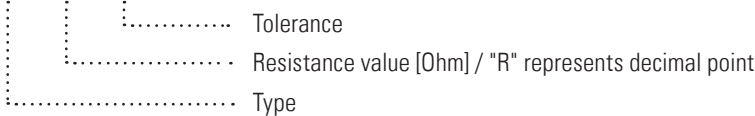
#### Technical data

Resistance values	<b>mOhm</b>	3 / 5 / 10 *
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>140°C</sub></b>	<b>W</b>	1
Power rating <b>P<sub>70°C</sub></b>	<b>W</b>	3
Internal heat resistance ( $R_{th}$ )	<b>K/W</b>	<30
Dielectric withstanding voltage	<b>V AC/DC</b>	200
Inductance	<b>nH</b>	<1
Stability (at rated power) deviation after 2000h, $T_K$ = Terminal temperature	<b>%</b>	<0.5 ( $T_K=110\text{ °C}$ ) <0.7 ( $T_K=140\text{ °C}$ )

\*See all standard values and tolerances on page 2

#### Ordering code

CLK - R003 - 1.0



#### Information

	<b>R003 / R005</b>	<b>R010</b>
D-Samples	available in September 2024	available in December 2024
AEC-Q200 qualification	available in September 2024	available in December 2024



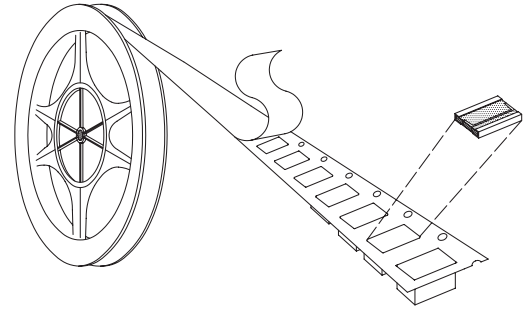
## CLK // Size 0612

### 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	8		
Reel size	inch	13		
Parts per reel	pcs	10000		
Packaging weight	g	454		
Tape material	plastic			



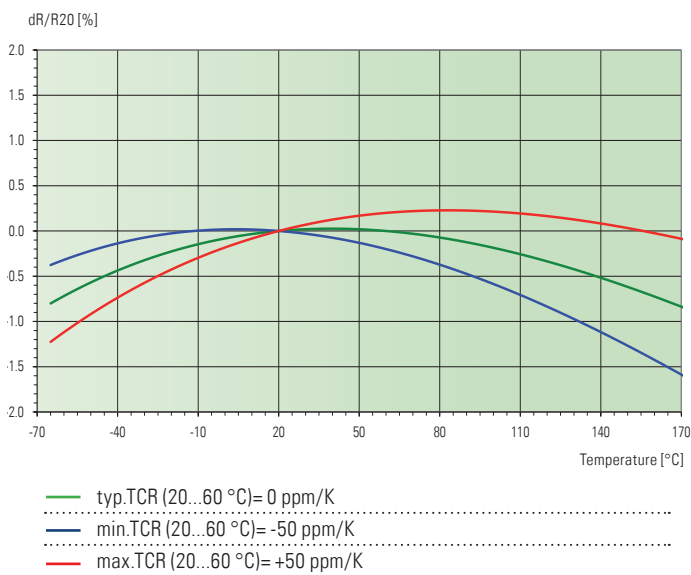
### Available standard resistance values and tolerances\*

Resistance values	Tolerance	
	1.0	5.0
R003	✓	✓
R005	✓	✓
R010	✓	✓

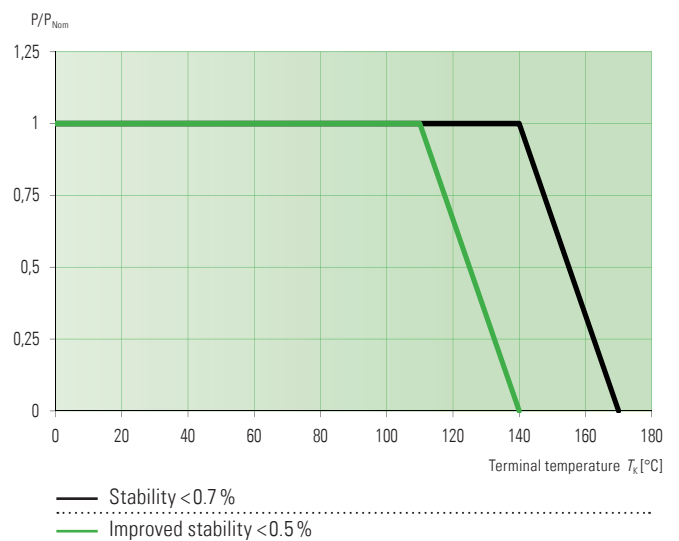
\* Further values and tolerances on request

✓ = available

### Temperature dependence of the electrical resistance



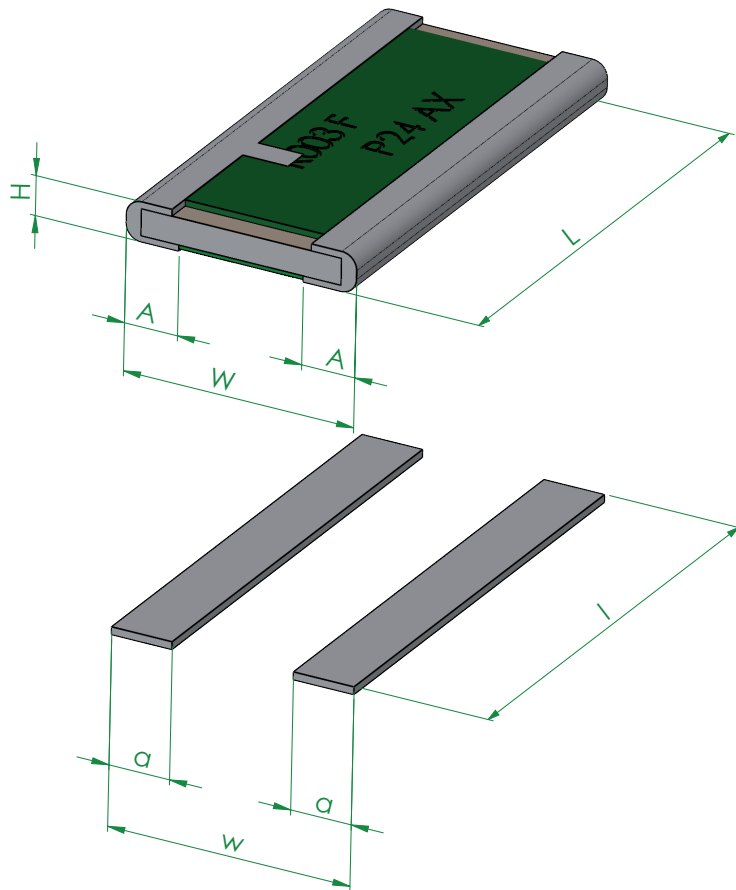
### Power derating curve





**CLK // Size 0612**

**Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm]**



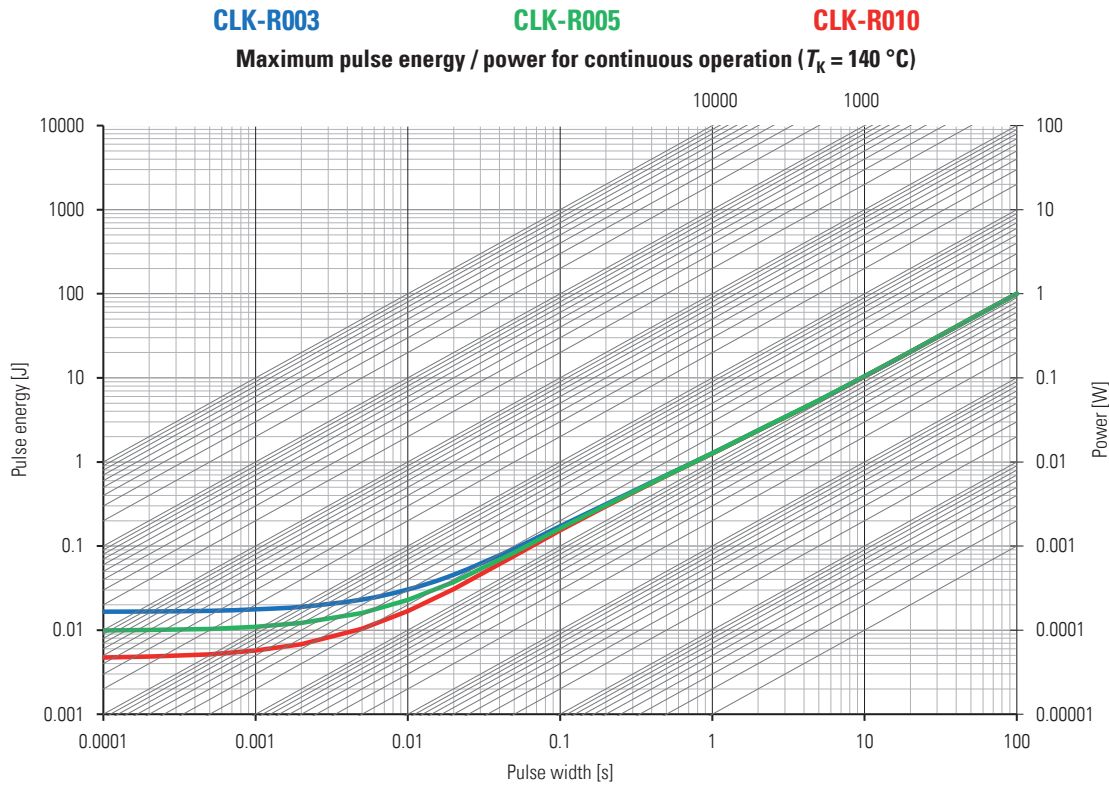
type:	L	W	H	A
CLK	3.05 ±0.3	1.52 ±0.2	0.35 +0.2/-0.1	0.35 ±0.2

solder pad type:	l	w	a
CLK	3.05	1.6	0.4



## CLK // Size 0612

### Maximum pulse energy respectively pulse power for permanent operation



### Specification

Parameters	Test conditions	Specified values
Temperature Cycling	2000 cycles (-55 °C to +150 °C)	±0.7 %
Low Temperature Storage and Operation	-65 °C for 250 h	±0.1 %
Resistance to Soldering Heat	260 °C for 10 sec / 8h steam aging	±0.1 %
Moisture Resistance	MIL-STD-202 method 106	±0.5 %
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, $T_k = 140$ °C max at rated power	±0.7 %
High Temperature Exposure	2000 h / 170 °C	±0.7 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.7 %

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