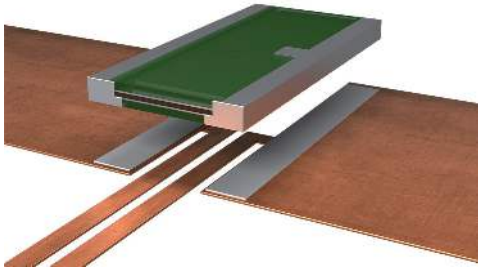




## ISA-PLAN® // PRECISION RESISTORS



### VLP // Size 1020



#### Features

- 2 W power rating at 130 °C
- Constant current up to 26 A (3 mOhm)
- Excellent long-term stability
- High pulse power rating
- 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

#### Technical data

Resistance values	<b>mOhm</b>	3 / 5 / 6 *
Tolerance	<b>%</b>	1 / 2 / 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>	2
Internal heat resistance ( $R_{th}$ )	<b>K/W</b>	<20
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		<0.5 % ( $T_K=100\text{ °C}$ ) <0.7 % ( $T_K=130\text{ °C}$ )

\* See all standard values and tolerances on page 2



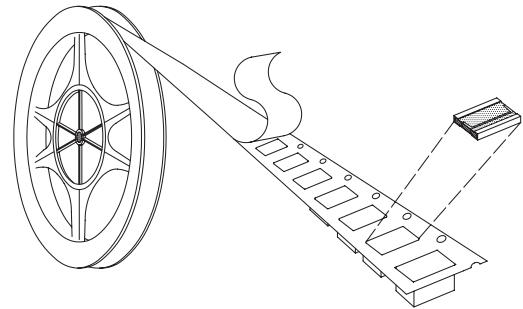
VLP // Size 1020

**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	10000 <small>(Rights to amend data is reserved)</small>		
Packaging weight	g	481		
Tape material	plastic			



**Available standard resistance values and tolerances\***

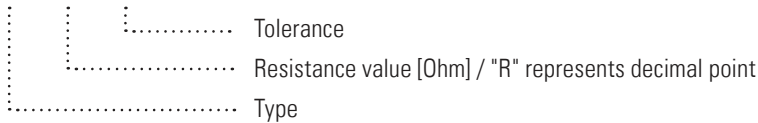
Resistance values	Tolerance	
	1.0	5.0
R003	✓	
R005	✓	
R006	✓	✓

\* Further values and tolerances on request

✓ = available

**Ordering code**

VLP - R003 - 1.0



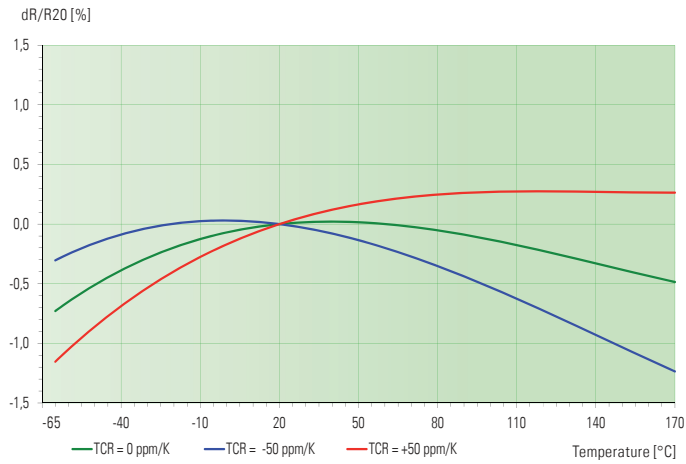
**Specification**

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 <sub>k</sub> max at rated power	±0.7 %, T <sub>k</sub> = 130 °C
High Temperature Exposure	2000 h / 170 °C	±0.7 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	±0.7 %

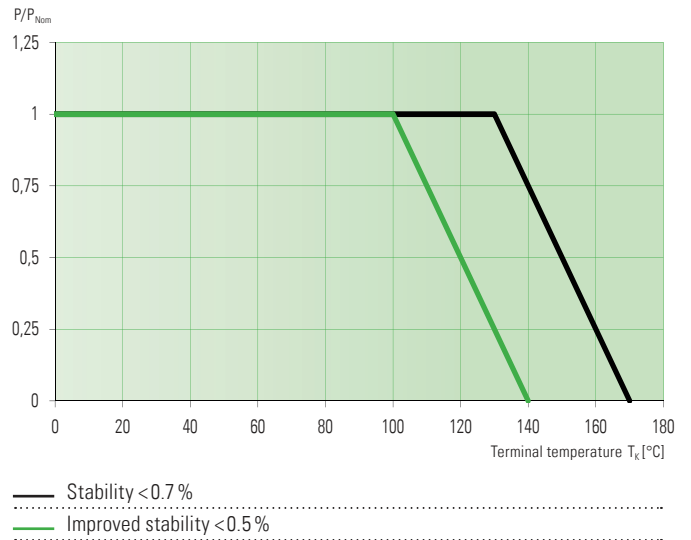


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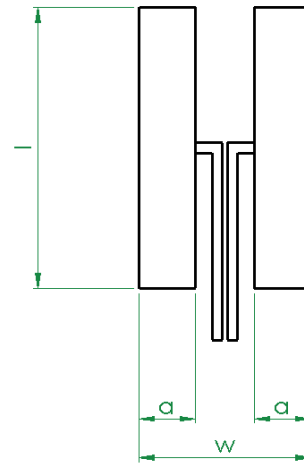
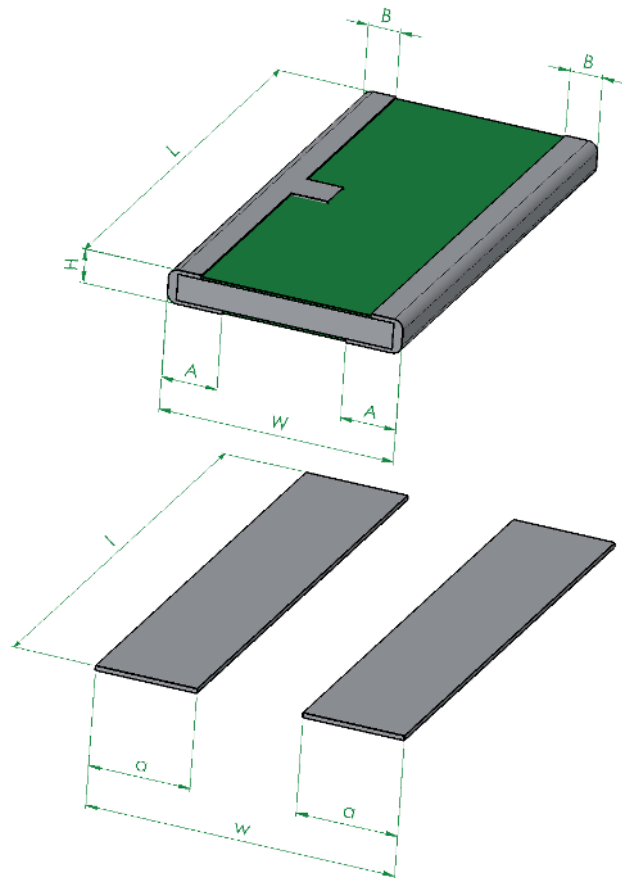
Temperature dependence of the electrical resistance



Power derating curve



Mechanical dimensions and pcb-layout proposal (Reflow-soldering) [mm] // drawing Z-YE-493



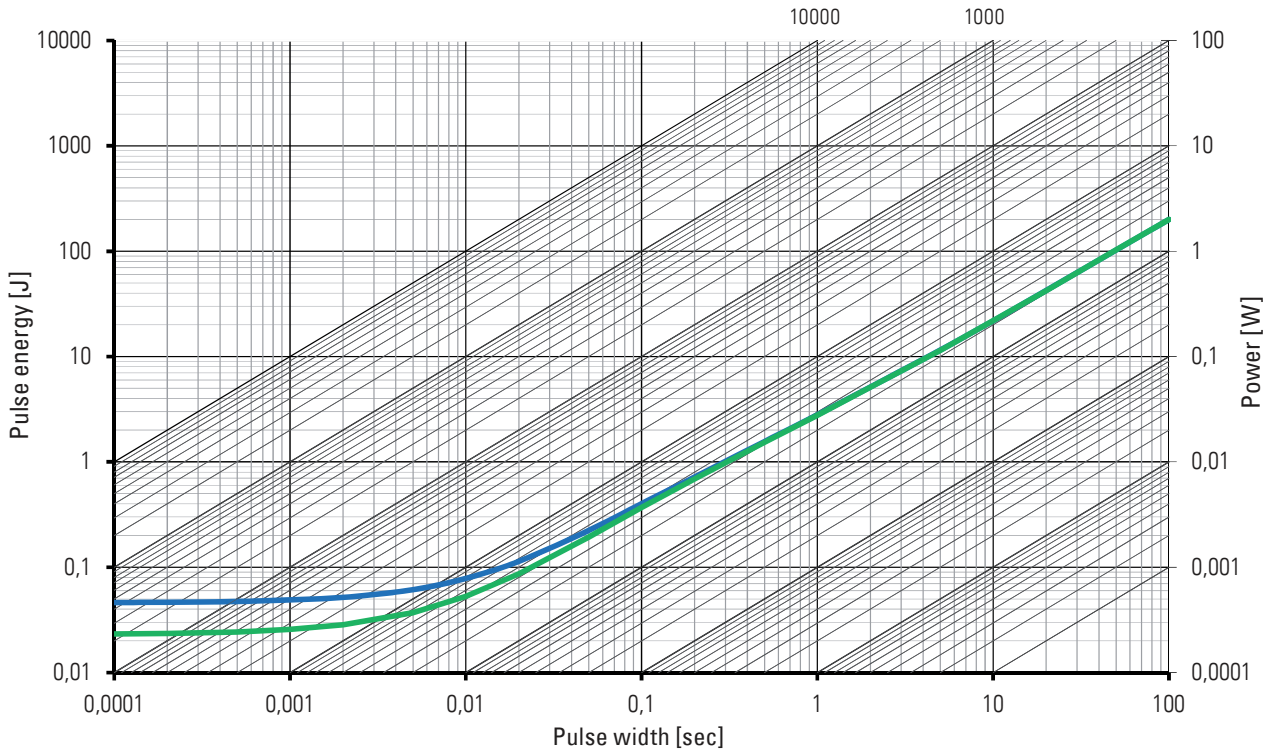
solder pad type:	<b>l</b>	<b>w</b>	<b>a</b>
<b>VLP</b>	5.5	3.35	1.1

type:	<b>L</b>	<b>W</b>	<b>H</b>	<b>A</b>	<b>B</b>
<b>VLP</b>	5.08 ±0.2	2.54 ±0.1	0.35 +0.2/-0.1	0.6 ±0.15	0.35 ±0.15
<b>VLP-R003</b>	5.08 ±0.2	2.54 ±0.1	0.35 +0.2/-0.02	0.6 ±0.15	0.35 ±0.15



VLP // Size 1020

Maximum pulse energy respectively pulse power for permanent operation



- VLP-R006
- VLP-R003

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