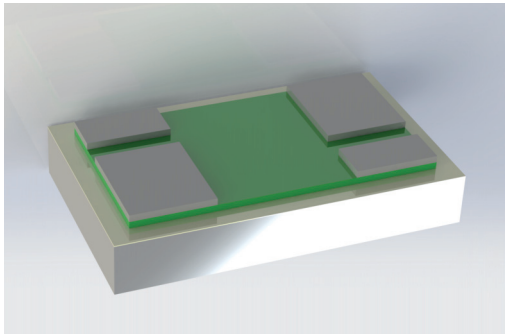




ISA-PLAN® // PRECISION RESISTORS



PMA // Size 3924



Features

- 3 W power rating
- Constant current up to 24 A (5 mOhm)
- Excellent long-term stability
- Flip-chip assembly
- RoHS 2011/65/EU compliant



Applications

- Current sensor for power hybrid applications
- Power modules
- Switch mode power supplies

Technical data

Resistance values ¹	mOhm	5 to 500
Tolerance ¹	%	1
Temperature coefficient (20-60 °C)	ppm/K	<30
Applicable temperature range	°C	-55 to +140
Power rating	W	3
Internal heat resistance (R _{thi})	K/W	<10
Dielectric withstanding voltage	VAC	100
Inductance	nH	<10
Stability (at rated power) deviation after 2000h, T _K = Terminal temperature		<0.5 % (T _K =95 °C) <1.0 % (T _K =110 °C)

¹ See all standard values and tolerances on page 2

Ordering code

PMA - A - R010 - 1.0 - Sn

- Lead-free tinning
- Tolerance
- Resistance value [Ohm] / „R” represents decimal point
- Layout
- Type



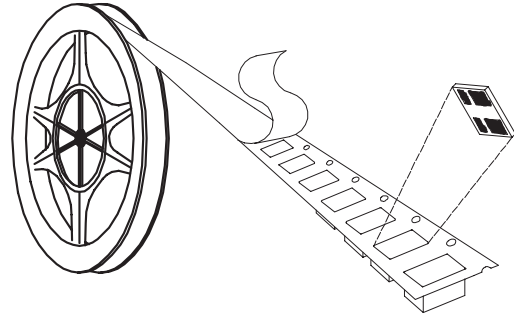
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Recommended solder profile

Reflow-, IR- and wave-soldering				
Temperature	°C	260	255	217
Time	sec	peak	40	90

Tape and reel information

Specification	DIN EN 60286-3			
Tape width	mm	16		
Reel size	inch	13		
Parts per reel	pcs	3000		
Packaging weight	g	474		



Available standard resistance values and tolerances*

Resistance values	Tolerance 1%
A-R005	✓
A-R010	✓
A-R022	✓
A-R050	✓
A-R100	✓
A-R220	✓
A-R500	✓

* Further values and tolerances on request
 ✓ = available

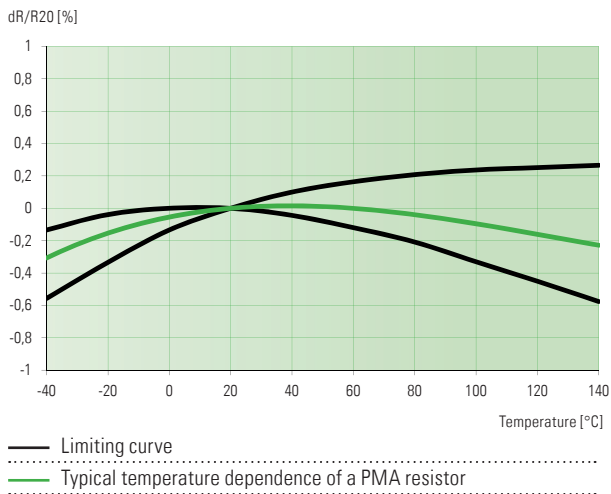
Specification

Parameters	Test conditions	Specified values
Temperature Cycling	1000 cycles (-55 °C to +150 °C)	±0.5 %
Low Temperature Storage and Operation	-65 °C for 24 h	±0.2 %
Resistance to Soldering Heat	260 °C for 10 sec / 8h steam aging	±0.3 %
Moisture Resistance	MIL-STD-202 method 106	±0.5 %
Mechanical Shock	100 g, 6 ms half sine	±0.2 %
Vibration, High Frequency	20 g, 10-2000 Hz	±0.2 %
Operational Life	2000 h, T _k max at nominal load	±1.0 %, T _k = 110 °C
High Temperature Exposure	2000 h / 140 °C	±0.5 %
Bias Humidity	+85 °C, 85 rF, 1000 h, powered	±0.5 %

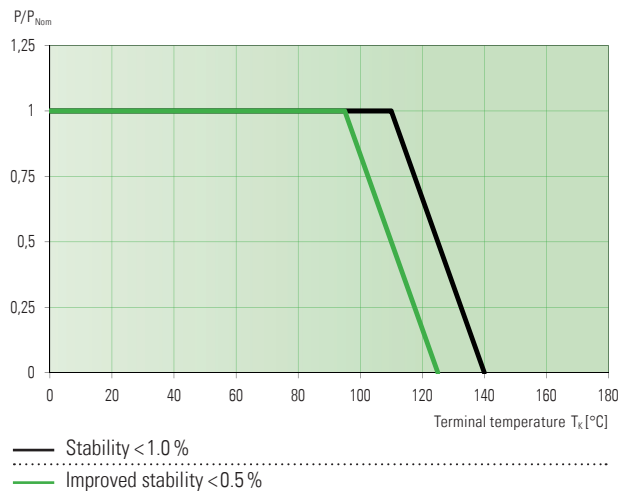


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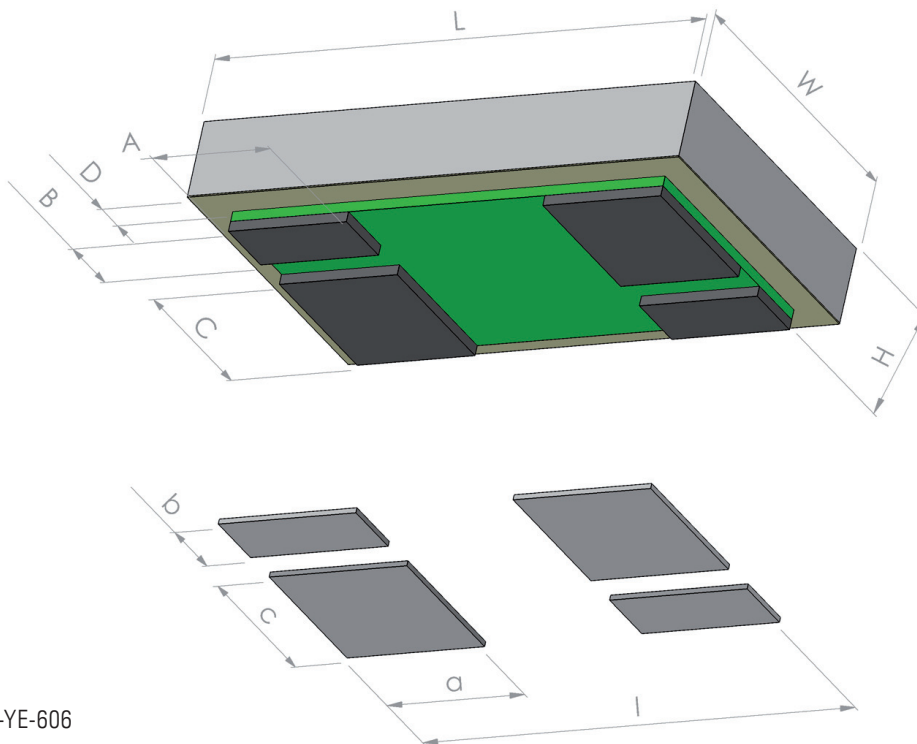
Temperature dependence of the electrical resistance



Power derating curve



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



Z-YE-606

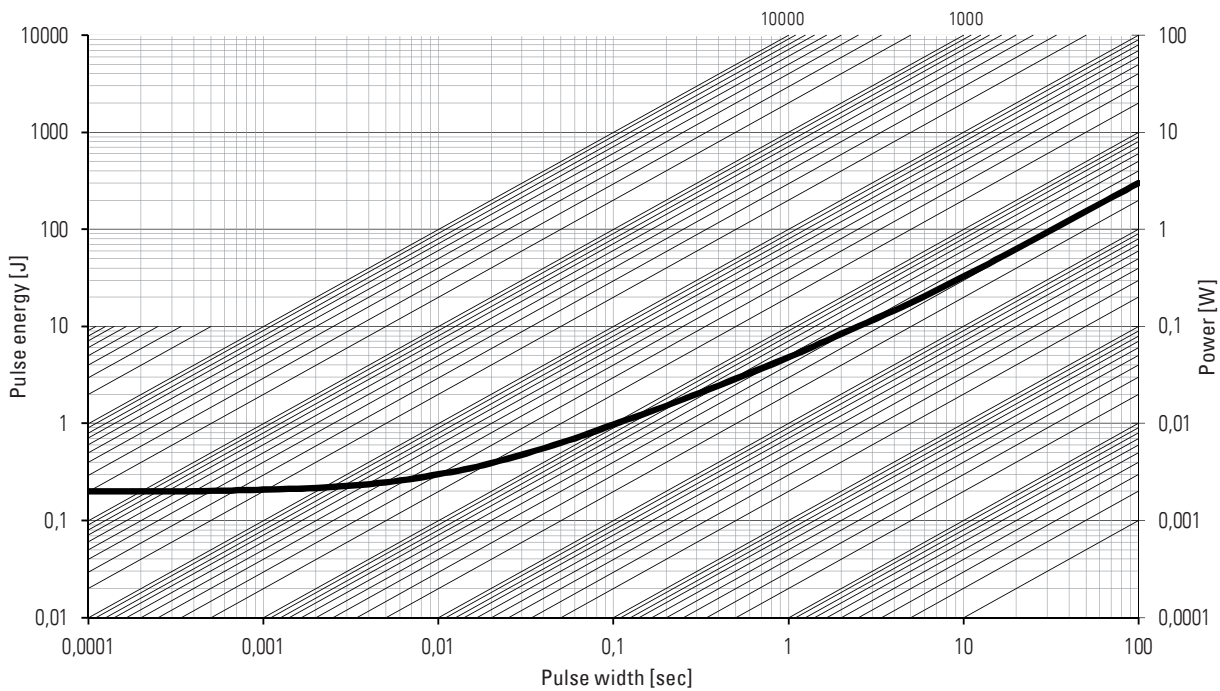
Type	L	W	H	A	B	C	D
PMA-A	10.0	6.0	1.9 ±0.3	2.4 ±0.15	1.2 ±0.15	2.9 ±0.15	0.6 ±0.15

Solder pad type	l	a	b	c
PMA-A	9.2	2.8	1.6	3.3



PMA // Size 3924

Maximum pulse energy respectively pulse power for permanent operation



This curve is only valid for the resistance value R005. The shape of the curve in the range below 0.1 sec will be different for other resistance values. Therefore a separate qualification should be made for pulse power close to the above curve.

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