



ISA-PLAN® // PRECISION RESISTORS



RTO-A // SIZE SOT 227B (ISOTOP)



Features

- 40 W power rating at 70 °C
- High pulse power rating 3 Joule for 20 ms
- Two terminal resistor
- Mounting in closed housing only
- Compatible with ISOTOP-standard housing
- RoHS 2011/65/EU compliant



Applications

- Snubber-resistor for RC-combination
- Power modules
- Frequency converters
- Switch mode power supplies

Technical data

Resistance values *	Ohm	0.5 to 50
Tolerance *	%	1 / 5
Temperature coefficient (20-60 °C)	ppm/K	<50
Applicable temperature range	°C	-55 to +170
Power rating	W	40 (with heatsink)
Internal heat resistance (R_{thi})	K/W	<2.5
Dielectric withstanding voltage	VDC	2,500
Operating voltage	V	500
Inductance	nH	<100
Stability (Nominal load) deviation after 2000h, T_K = base plate		<0.5 % ($T_K=40$ °C) <1.0 % ($T_K=70$ °C)

* See all standard values and tolerances on page 2



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Assembly instruction

Max. allowed torque for screws

Base plate	Terminal
M4 2 Nm	M4 2 Nm

Specification

Parameters	Test conditions	Specified values
Low Temperature Storage and Operation	-65 °C for 24 h	0.5 %
Moisture Resistance	MIL-STD-202 method 106	0.5 %
Mechanical Shock	100 g, 6 ms half sine	0.5 %
Vibration, High Frequency	20 g, 10-2000 Hz	0.5 %
Operational Life	2000 h, TK max at nominal load	1.0 %
High Temperature Exposure	2000 h / 170 °C	1.0 %
Bias Humidity	+85 °C, 85 r.F., 1000 h	1.0 %

Available standard resistance values and tolerances*

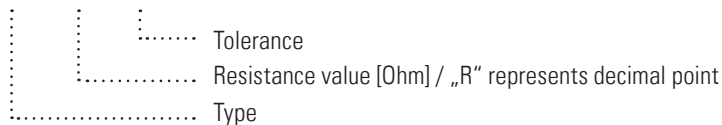
Resistance values	Tolerance	
	1.0	5.0
R500	✓	
1R00	✓	
5R00	✓	
10R0	✓	
20R0	✓	
33R0	✓	✓
50R0	✓	

* Further values and tolerances on request

✓ = available

Ordering code

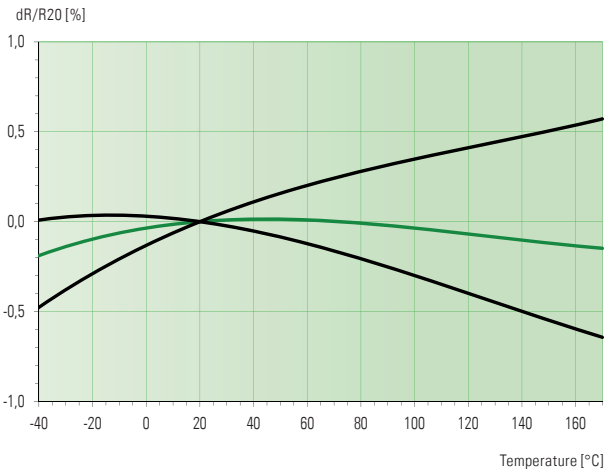
RTO-A - 5R00 - 1.0





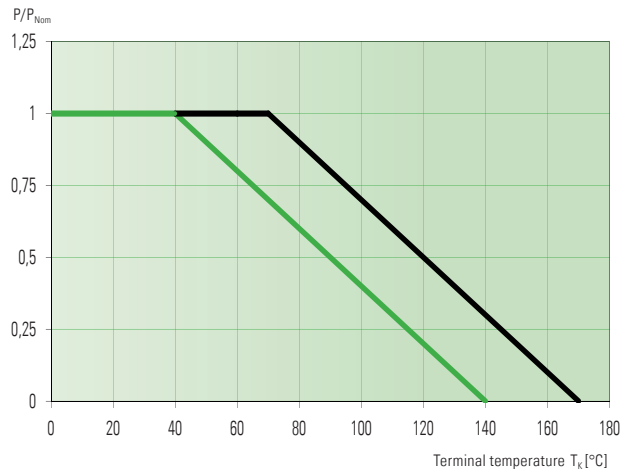
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Temperature dependence of the electrical resistance



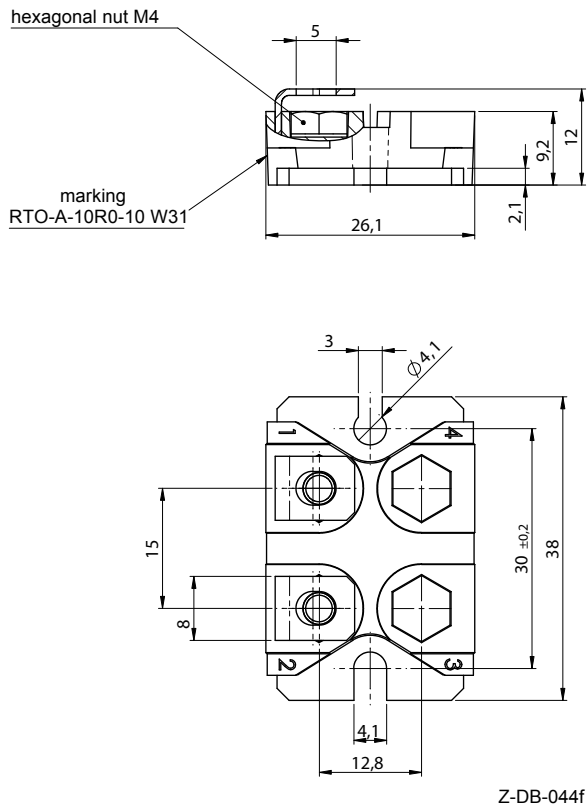
- Limiting curve
- Typical temperature dependence of a RTO-A resistor

Power derating curve for heatsink mounted RTO-A



- Stability < 1.0 %
- Improved stability < 0.5 %

Mechanical dimensions [mm]

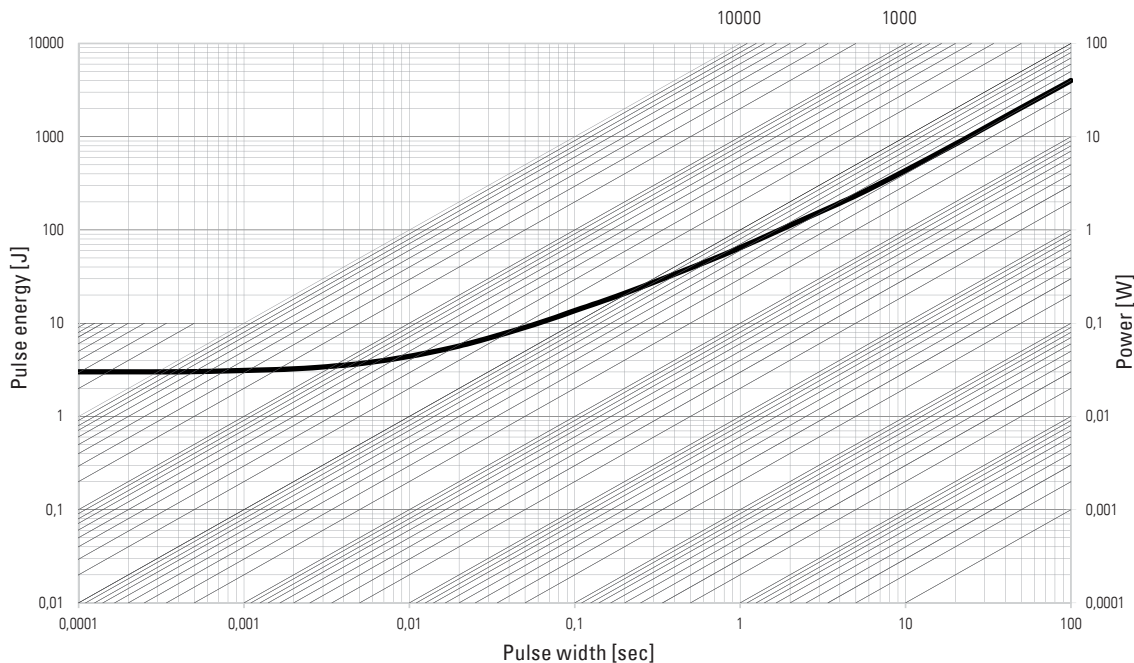


Dimensions without tolerances are acc. ISO 2768-mK



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Maximum pulse energy respectively pulse power for permanent operation



This curve is only valid for the resistance value 1R00. The progression of the curve in the lower range could be different for other resistance values. Therefore a separate qualification should be made in thresholds.

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