



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

\* See all standard values and tolerances on page 2

**not for new designs  
end of life**



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

**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\***

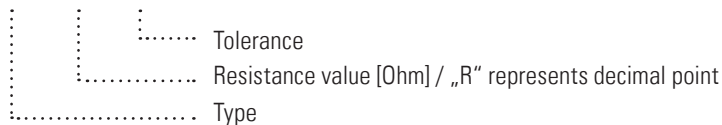
Resistance values	Tolerance	
	1.0	5.0
R500	✓	
1R00	✓	
5R00	✓	
10R0	✓	
20R0	✓	
33R0	✓	✓
50R0	✓	

\* Further values and tolerances on request

✓ = available

**Ordering code**

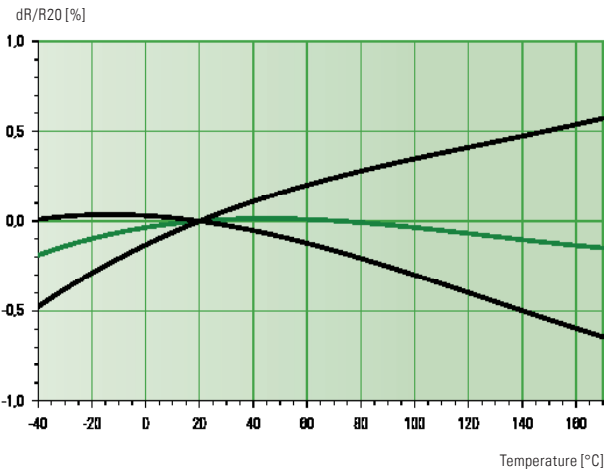
RTO-A - 5R00 - 1.0





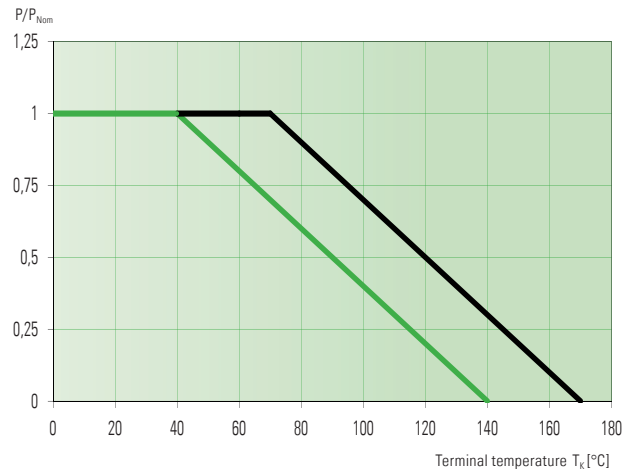
## RTO-A // SIZE SOT 227B (ISOTOP)

### Temperature dependence of the electrical resistance



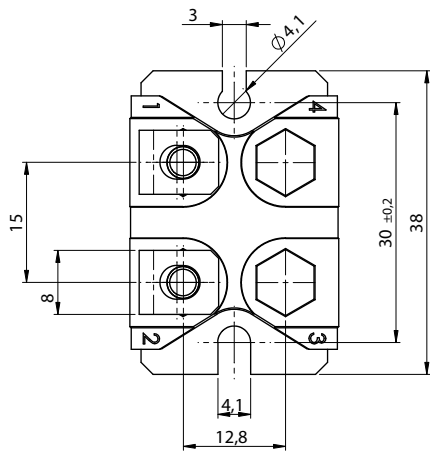
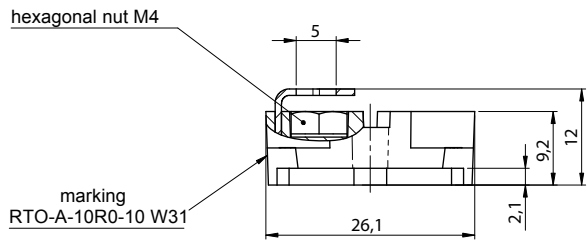
- Limiting curve
- Typical temperature dependence of a RTO-A resistor

### Power derating curve for heatsink mounted RTO-A



- Stability < 1.0 %
- Improved stability < 0.5 %

### Mechanical dimensions [mm]



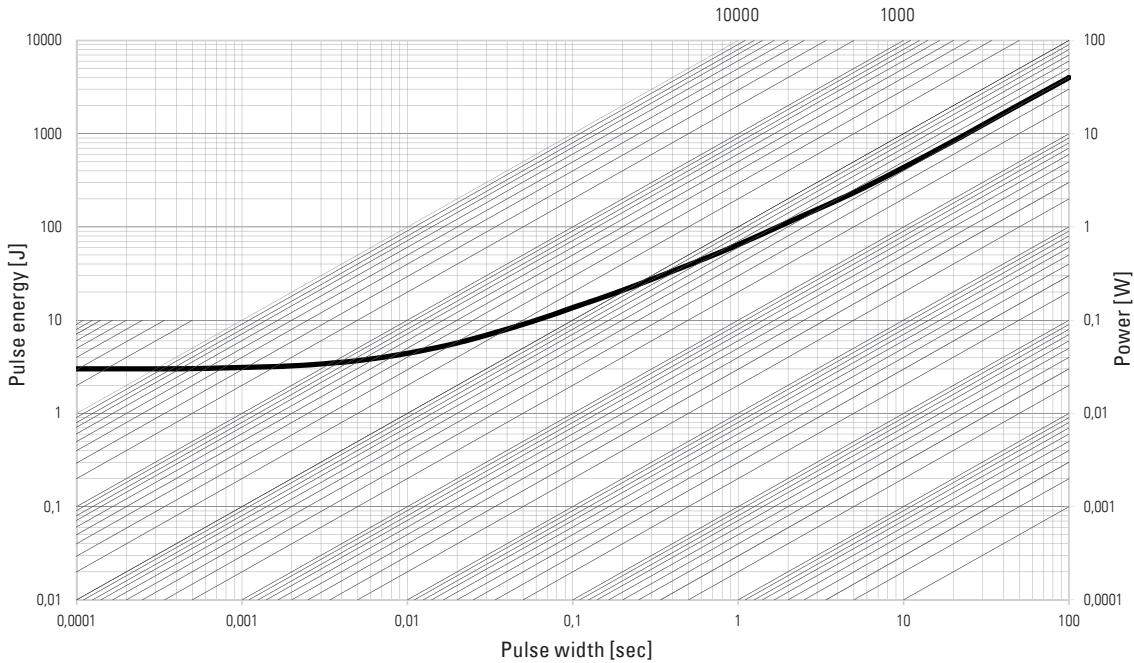
Z-DB-044f

Dimensions without tolerances are acc. ISO 2768-mK



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

**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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