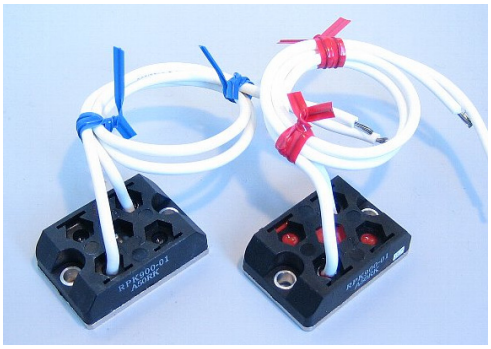
NIKKOHM POWER – SOT227

Pb-free RoHS2

900W 10KV

CHASSIS MOUNT HIGH POWER RESISTORS NON-INDUCTIVE, WATER COOLING

RPK900L



Features

SOT-227 packaged compact high-power resistor, featuring a dielectric withstand voltage of 10kVAC and a rated power of 900W. Partial discharge inception voltage achieves 7 kV (50 kHz). Mounts easily with two M4 screws. The 12 mm profile contributes to space-saving. Standard configuration includes two terminals. Designed for mounting on heat-dissipating chassis such as water-cooled systems.

Applications

- Charge / discharge resistors
- Voltage divider of the high voltage pulse source for X-ray CT, MRI, EUV Laser

Ordering Information

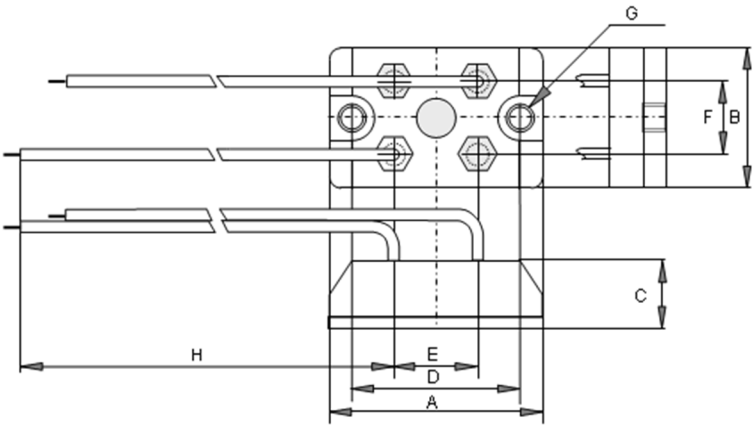
Model	TCR	Resistance	Tolerance	Packaging
RPK900L	C	50 ohm	J	Z00

RPK900L	50ppm/℃	Value Range (Ω)	Tolerance (%)	Symbol	Packaging	Symbol
		25 – 1K	5	J	BOX	Z00

Resistance value (*) is available following modified E24, +E24.

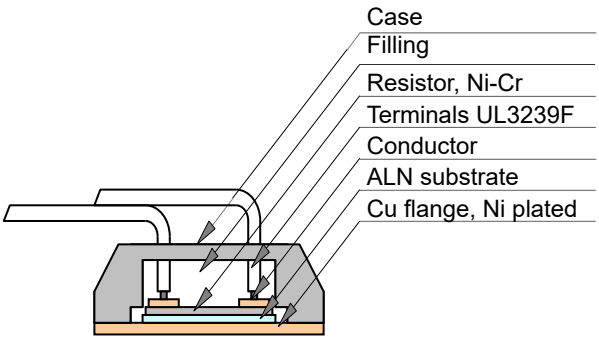
1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.5	2.7	3.0	3.3
3.6	3.9	4.0	4.3	4.7	5.0	5.1	5.6	6.2	6.8	7.5	8.0	8.2	9.1

Dimensional Specifications (mm/inch)



	(mm)	(inch)		(mm)	(inch)
A	38+/-0.5	1.50+/-0.02	E	15+/-0.5	0.59+/-0.02
B	25+/-0.5	0.98+/-0.02	F	13+/-0.5	0.51+/-0.02
C	12+/-0.5	0.47+/-0.02	G	2 – 4.20 +/-0.1 dia.	2 - 0.165 +/-0.004 dia.
D	30+/-0.2	1.18+/-0.008	H	250+/-10	9.8+/-0.4

Structure and Material



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Nikkohm Co., Ltd. 3-31-2640 Minamicho, Misawa, Aomori 033-0036 Japan
e-mail: info@nikkohm.co.jp
URL: https://www.nikkohm.com

POWER – SOT227

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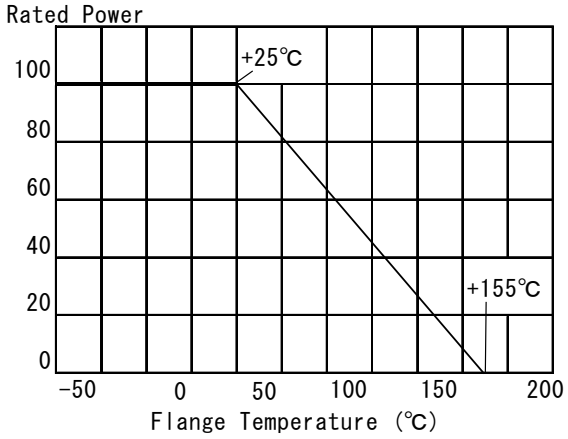
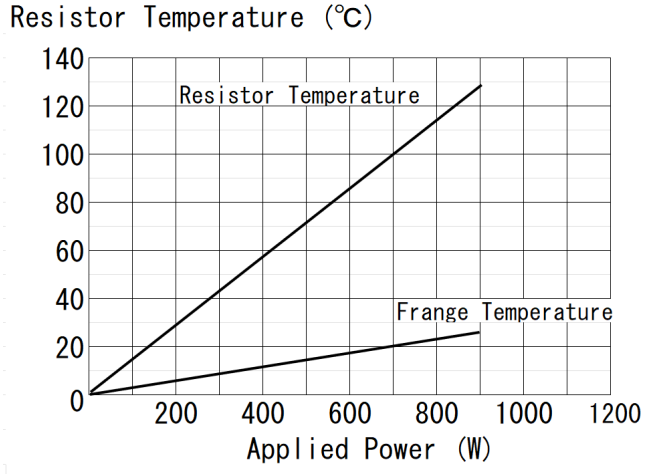
Specifications

Parameter	Values / Specifications	Conditions
Power Rating	900 Watts	At flange temperature -55 to +25 °C
Thermal Resistance	0.10 °C/W	Between resistor to flange (Bottom metal)
Resistance Range	25 ohm ~ 1K ohm	Single
Nominal Resistance	E24+	Any value is available as an optional.
TCR (ppm/°C)	+/- 50 ppm/°C	For -55 to +155 °C
Tolerance (%)	+/-5%	+/- 1% (F) is available as an optional.
Operation Temp.	-55 - +155 °C	
Operating Voltage	E=√P*R with a max. of 1000V	
Withstanding Voltage	10,000 VAC	60 seconds - 0.5mA - 50Hz
PDIV	7,000 V - 50kHz	Starting voltage, typical
Load Life	+/-(1.0 %+0.05 ohm)	25°C, 1000hours with 90minutes "ON", 30minutes "OFF"
Humidity	+/-(1.0 %+0.05 ohm)	70°C, 90~95% RH, DC 0.1W
Temperature Cycle	+/-(1.0 %+0.05 ohm)	-55°C, 30 min.,+125°C 30min., 20cycles. (-55°C, 30 min.,+120°C, 30min., 5 cycles.)
Short Time Overload	+/-(5.0 %+0.05 ohm)	Rating watt×1.5, 5seconds, with heat sink.
Insulation Resistance	Over 1000 meg ohm	Between terminals and flange (Bottom metal)
Vibration	+/-(0.25 %+0.05 ohm)	
Weight	38 grams	Without wire terminals

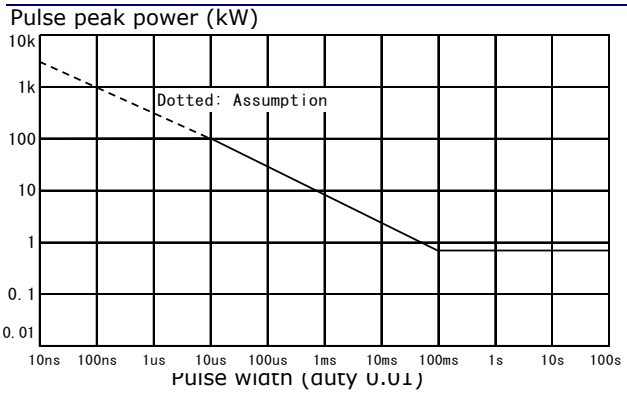
Derating Curve



Temperature Rise (Typical)

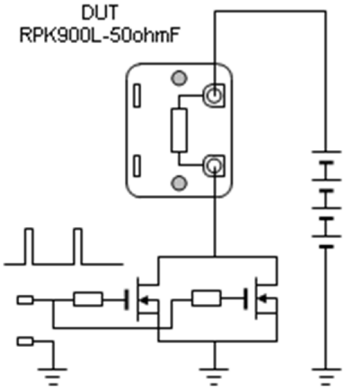


Pulse Energy Durability



Guideline for allowable peak power under continuous pulses with a duty cycle of 0.01.This curve varies depending on resistance value, pulse repetition frequency, duty cycle, and operating temperature; therefore, lifetime testing on the actual equipment is recommended.
The dashed line indicates the estimated region.

Test method



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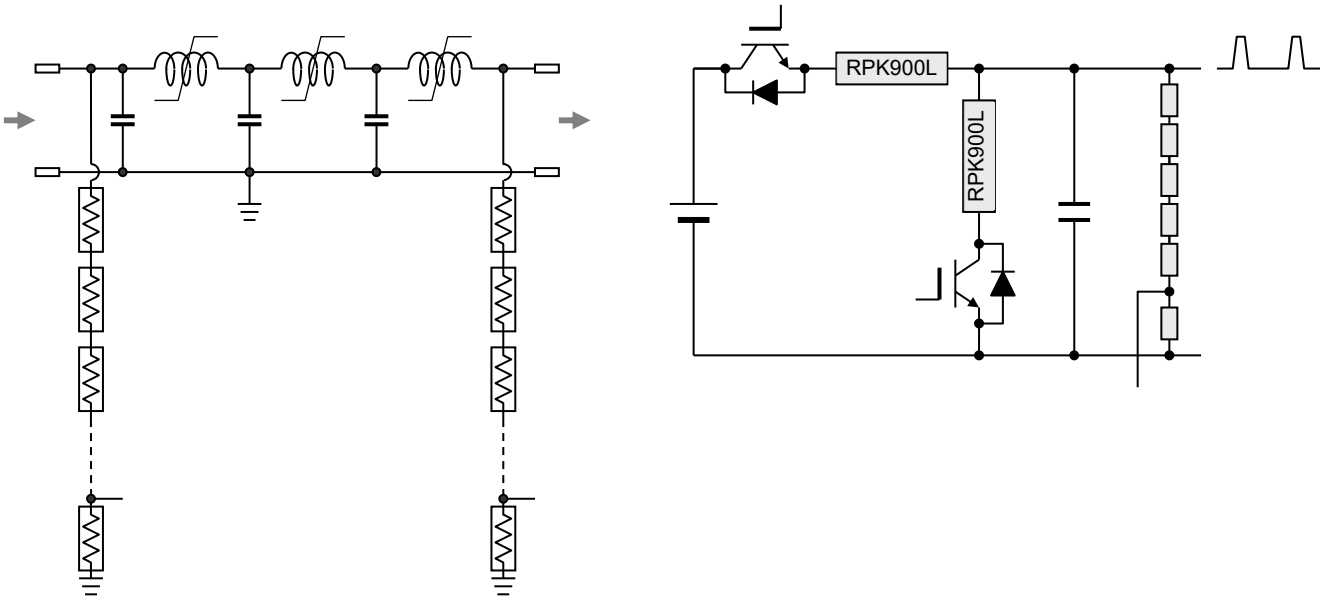
ADVANCED APPLICATION TECHNIQUES



Typical high-speed pulse power generator and water cooling resistor, RPK900L

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