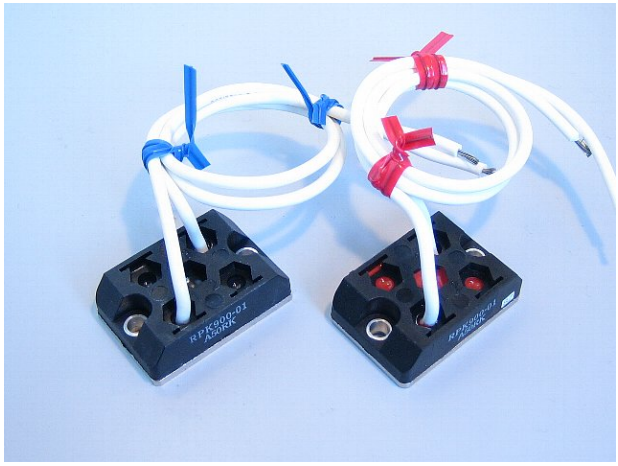
900W 10KV
CHASSIS MOUNTING NON-INDUCTIVE HIGH POWER RESISTORS, WATER COOLING

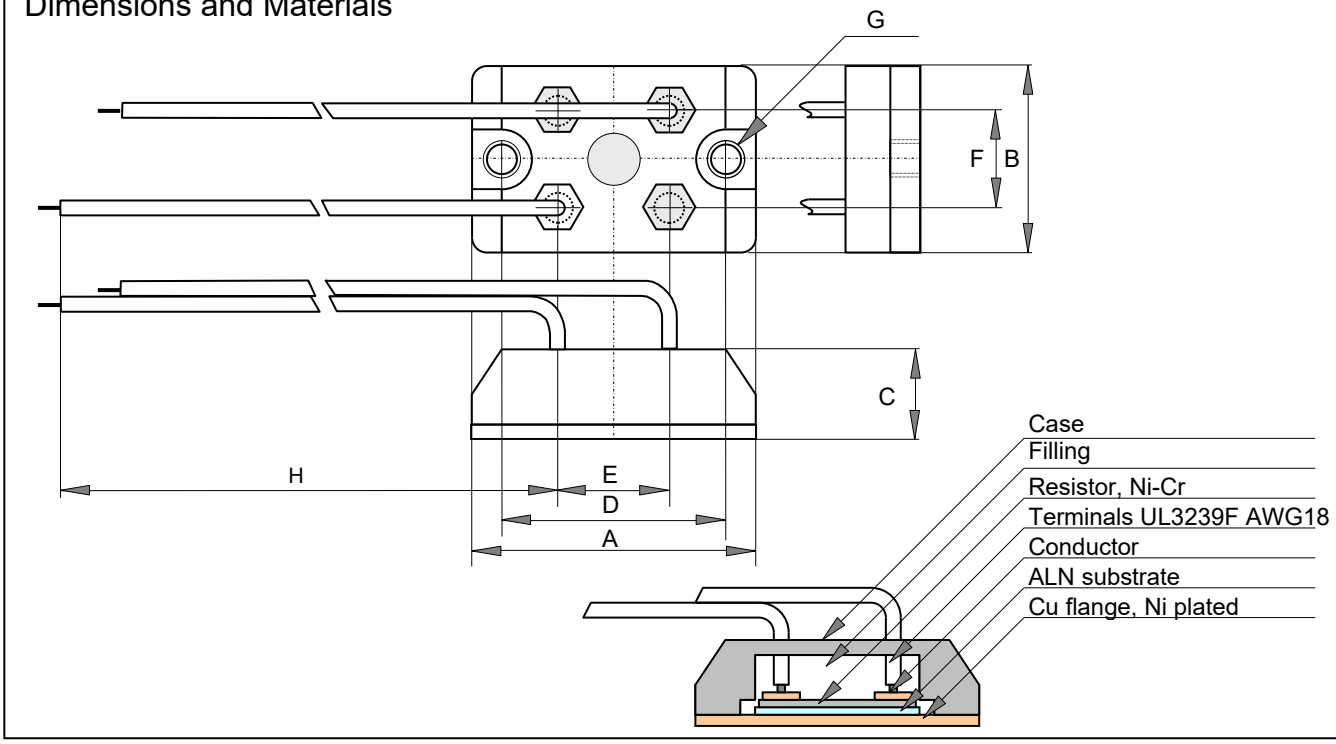
RPK900L



The RPK900L is a high-power resistor in a compact SOT-227 package, featuring a dielectric withstand voltage of 10kVAC and a rated power of 900W. Designed for mounting on heat-dissipating chassis such as water-cooled systems, it offers excellent thermal performance. Corona discharge initiates at 7kV (50kHz). Its compact size results in minimal series inductance, making it ideal for high-voltage pulse circuits and high-frequency applications. The resistor is easily mounted using two M4 screws. With a terminal-side height of just 12mm, the unit is exceptionally low-profile and space-saving. Standard configuration includes two terminals. For custom terminal arrangements, please contact the factory for part number specifications.

Applications include charge / discharge resistors, voltage divider of the high voltage pulse source for X-ray CT, MRI, EUV Laser and etc.

Dimensions and Materials



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

Nikkohm Co., Ltd. 3-31-2640 Minamicho, Misawa, Aomori 033-0036 Japan TEL: +81-176-53-2105, FAX: +81-176-53-2106

URL: http://www.nikkohm.co.jp & http://www.nikkohm.com / e-mail: info@nikkohm.co.jp

POWER-NIKKOHM

RoHS

900W 10KV
CHASSIS MOUNTING NON-INDUCTIVE HIGH-POWER RESISTORS
RPK900L

Ordering Information

RPK900L	C	101	J	Z00
RPK900L	C (50ppm)	+E24	J (5%)	Z00 (RoHS) Box

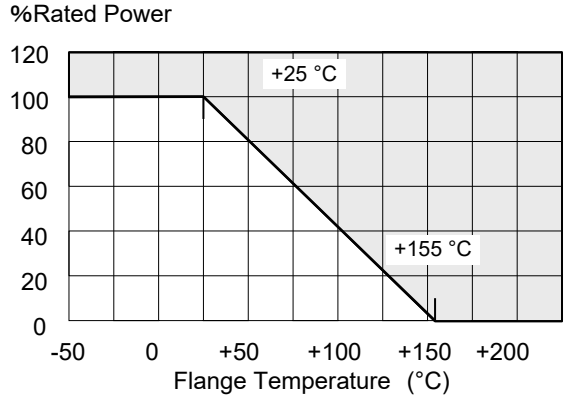
Resistance value is available following modified E24, +E24 (Any resistance values are available optionally)

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

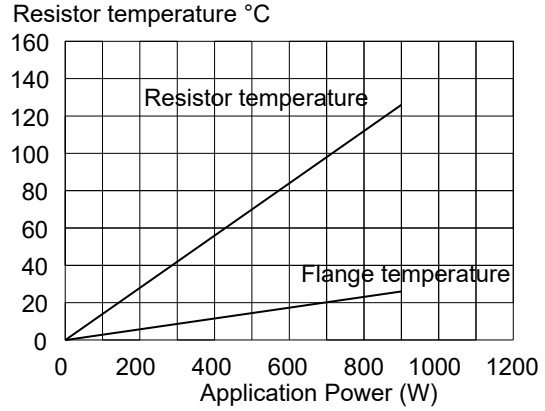
Specifications and Performances

Specification Items	RPK900L	Conditions
Rating Power	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 to 1K ohm Single	
Nominal Resistance	Modified E24	Any value, option
TCR	+/- 50 ppm/°C (C)	For -55 to +155 °C
Tolerance	+/-5% (J)	available +/- 1% (F) option
Operation Temp. Range	-55 - +155 °C	
Limiting Voltage	Either less than 1000V or $E=\sqrt{P\cdot R}$	
Withstanding Voltage	10,000 VAC	60 seconds - 0.5mA - 50Hz
Partial discharge	7,000 V - 50kHz	Starting voltage, typical
Load Life	+/-(1.0 %+0.05 ohm)	25°C, 90min.ON, 30min.OFF, 1000hours.
Humidity	+/-(1.0 %+0.05 ohm)	70°C, 90 to 95%RH, DC0.1W, 1000hours.
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, RPK900L



Temperature Rise, RPK900L, Typical



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900W
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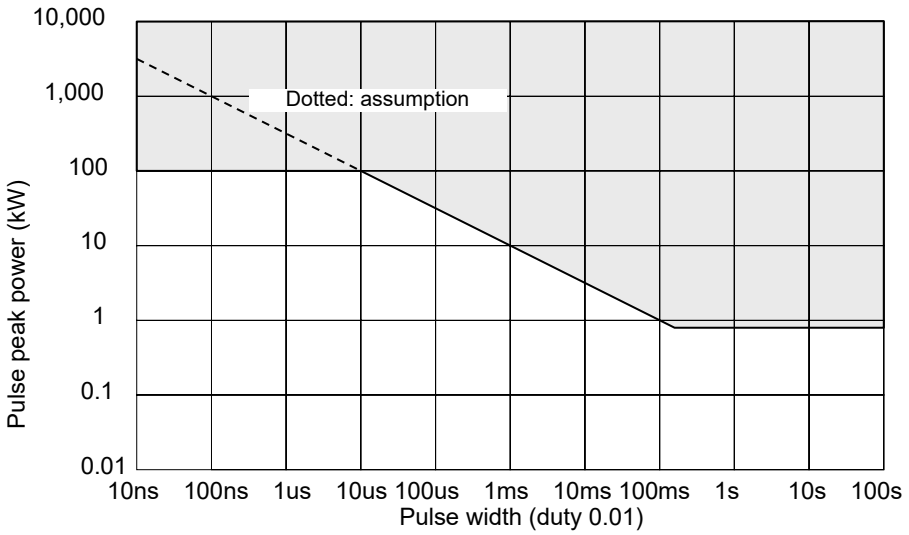
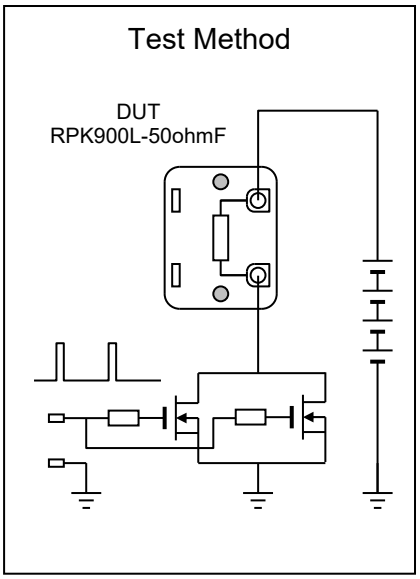
RPK900L

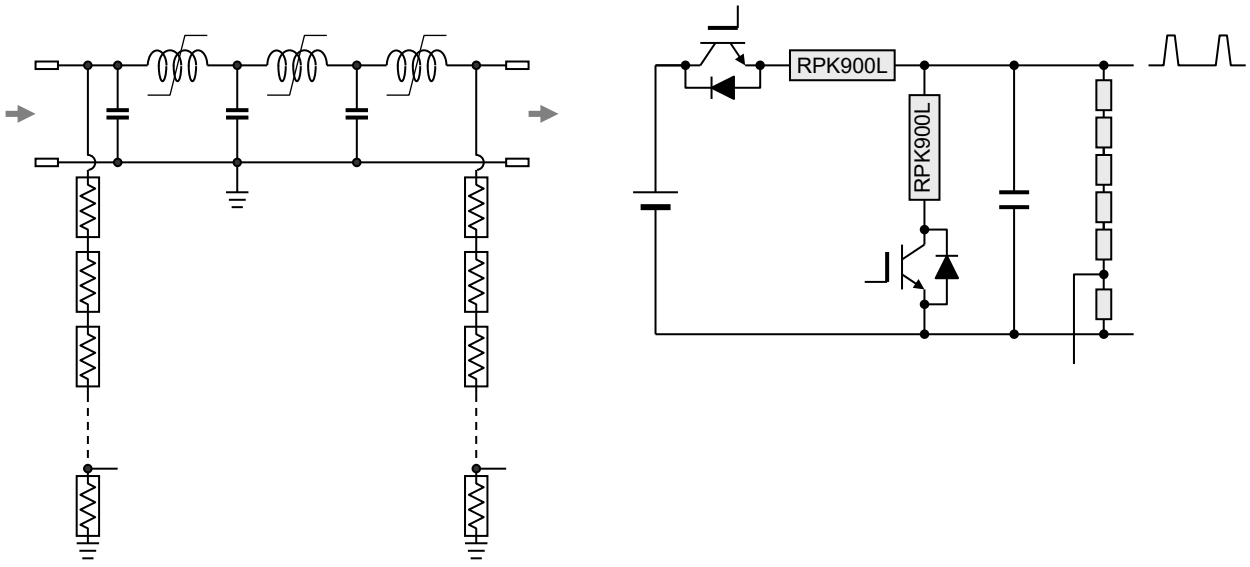
Pulse Operation





Above drawing shows allowable pulse peak power that obtained by actual breaking test of RPK900L-10ohm-J, and shows the result of double safety factor. The test was performed by observation of small resistance change after application of continuous pulse, that is rectangular waveform and 0.01 duty.
Since the pulse durability is moved by the resistance, the pulse waveforms and type of pulse source, constant voltage source or current source, please test carefully for long terms on actual electronics when operating the resistor by the pulse of the peak power exceeding rated power.

Typical High speed pulse power generator and water cooling resistor, RPK900L



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