

## POWER SOLUTION - NIKKOHM

### 50W to 500W HIGH POWER WIRE WOUND RESISTORS FLAT SHAPED ALUMINUM HOUSED

IRN50-IRN150  
IRF150-IRF500



### Features and Applications

Non-inductive, flat shaped aluminum housed wire wound fixed resistors with 50W to 500W.. Minimum resistance of 1ohm, +/-0.5% tolerance available.

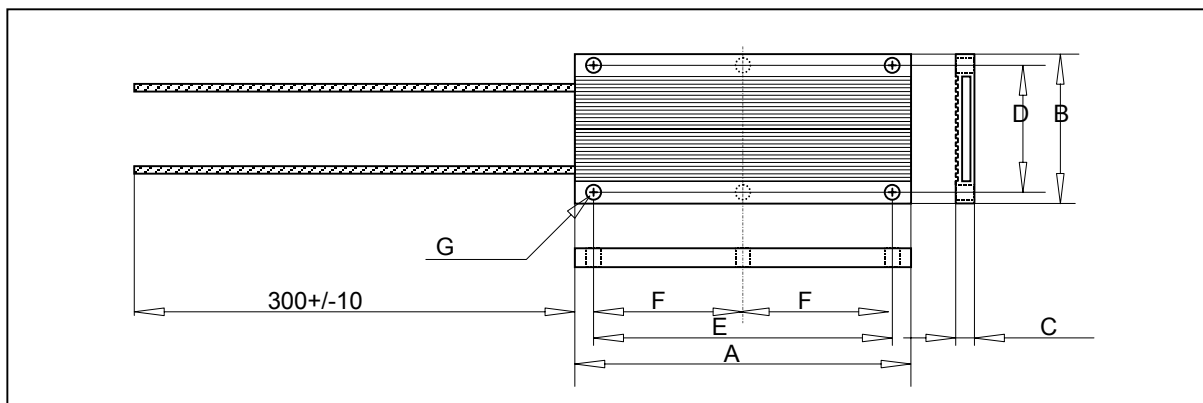
10mm thickness allows excellent heat extrusion from resistor.

Narrower body (IRN) will be suitable for high density installation.

Light weight silicone filled insulation and higher temperature operating cement filled insulation are prepared.

Strong overload characteristics are fit for applications of industrial power electronics, switching power supplies, braking resistors for motor control electronics, rush current protection in automotive electronics, industrial power supplies.

### Dimensions (mm)



Type	A	B	C	D	E	F	G dia.	Weight(g)
IRN 50	70+/-1	60+/-0.3	10	50+/-0.3	50+/-0.3	-	4-5.3 dia.	100
IRN100	120+/-1	60+/-0.3	10	50+/-0.3	100+/-0.3	-	4-5.3 dia.	160
IRN150	170+/-1	60+/-0.3	10	50+/-0.3	150+/-0.3	-	4-5.3 dia.	220
IRF100	90+/-1	80+/-0.3	10	70+/-0.3	70+/-0.3	-	4-5.3 dia.	155
IRF150	120+/-1	80+/-0.3	10	70+/-0.3	100+/-0.3	-	4-5.3 dia.	200
IRF200	150+/-1	80+/-0.3	10	70+/-0.3	130+/-0.3	-	4-5.3 dia.	245
IRF250	180+/-1	80+/-0.3	10	70+/-0.3	160+/-0.3	-	4-5.3 dia.	290
IRF300	210+/-1	80+/-0.3	10	70+/-0.3	190+/-0.3	95	6-5.3 dia.	335
IRF400	270+/-1	80+/-0.3	10	70+/-0.3	250+/-0.3	125	6-5.3 dia.	430
IRF500	330+/-1	80+/-0.3	10	70+/-0.3	310+/-0.3	155	6-5.3 dia.	525

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### Ordering Information

P/N	Type	Insulating Material	Resistance	Tolerance	Additional
IRN100S1R0J 0.75sqmm	IRN100	S(Silicone)	1 ohm	+/-5%(J)	Lead wire
IRN150C1K0F	IRN150	C(Cement)	1K ohm	+/-1%(F)	
IRF200S100RJ	IRF200	S(Silicone)	100 ohm	+/-0.5%(D)	
IRF500C10RJ 2sqmm	IRF500	C(Cement)	10 ohm	+/-5%(J)	Lead wire

### Specifications

Type	Rating power with heat sink	Resistance (ohm)	Tolerance (%)	Dielectric strength	Lead wire	
					2mm <sup>2</sup>	1.25 mm <sup>2</sup>
IRN 50	50W	1-420	+/-0.5(D) +/-1.0(F) +/-2.0(G) +/-5.0(J) +/-10(K)	Standard AC1000V, Available AC 1500V 2500V 3000V 4500V at 2mA current	NA	1-420
IRN100	100W	1-1.1K			NA	1-1.1K
IRN150	150W	1-1.75K			NA	1-1.75K
IRF100	100W	1-1.1K			NA	1-1.1K
IRF150	150W	1-1.75K			NA	1-1.75K
IRF200	200W	1-2.2K			1-4 ohm	4.1 -
IRF250	250W	1-2.79K			1-5 ohm	5.1 -
IRF300	300W	1-3.5K			1-6 ohm	6.1 -
IRF400	400W	1-4.45K			1-8 ohm	8.1 -
IRF500	500W	1-5.78K			1-10 ohm	10.1 -

### Performance

Term	Specifications	Conditions
Temperature Coefficient	+/-260 ppm/C	Maximum
Insulation Resistance	20Megohm min.	Dry condition.
Operating Temperature, cement filled	-55C - +200C	
Operating Temperature, silicone filled	-55C - +150C	
Short Time Overload	+/--(1.0%+0.05ohm)	5 times rating power, 5 seconds.
Moisture Resistance	+/--(2.0%+0.05ohm)	40C, 95%RH, DC100V case to leads, 500H
Thermal Shock	+/--(1.0%+0.05ohm)	Heating with rating power 30 minutes, -25C 15 minutes
Vibration	+/--(1.0%+0.05ohm)	10-50-10Hz, 1 minute/cycle, 2 hours, x , y and z direction.
Humidity	+/--(2.0%+0.05ohm)	40C, 95%RH, 0.1 rating power, 90min ON, 30min OFF, 500hours.
Load Life	+/--(2.0%+0.05ohm)	Rating power, 90min ON, 30min OFF, 500hours.

Note for derating, cement filled type.

- (1) Attached on chassis for 150W to 500W and free air for 50W-100W.
- (2) Free air for 150W.
- (3) Free air for 200W and 250W.
- (4) Free air for 300W to 500W.

Note for lead wire:

0.75 sqmm leads is available.

Derating  
%Rating Watts

