TaNFilm®
Precision Resistor Array

SON SERIES

- **Superior temperature performance**
- **Absolute TC to ±15 ppm/°C**
- **Tracking to ±2 ppm/°C**
- **Military screening available**
- **Absolute tolerance to ±0.02%**
- **Ratios to ±0.01%**
- **Compatible with standard SOIC footprints**

Electrical Data

		SON	Notes
Resistance range	Isolated ohms	50 to 100K	Higher resistance
	Bussed ohms	50 to 50K	values available
Standard Resistance Tolerance	±%	0.1, 0.5, 1, 2	0.02 available
Temperature Coefficient	ppm/°C	±15, ±25, ±50, ±100	
TCR Tracking (Reference to R1)	ppm/°C	±5 standard	±2 available
Temperature Range	°C	-55 to +150	
Noise Level	dB	< -25	
Terminations		Gold over nickel over copper	solder coating available
Substrate Material		99.5% pure alumina ceramic	
Construction		Custom coat epoxy	

TaNFilm® Small Outline Leadless Resistor Networks is ideally suited for applications requiring precision, long term reliability and stability in a small area. Its monolithic construction eliminates vulnerable terminations such as solder connections. The SON package is ideal for the all surface mount production reflow techniques. The TaNFilm® SON Network provides all the unique qualities of our other TaNFilm® package configuration. Testing has demonstrated performance exceeding MIL-PRF-83401 characteristic H.

Precise laser trimming enables us to achieve extremely close tolerance and tight ratios. Our in-house CAD system and photo-etch process makes custom circuit configurations and multiple resistance values easily achievable. The tantalum nitride resistor film system is a refractory metal that is self passivating providing extreme temperature capabilities and superior environmental characteristics that surpass military requirements.

For surface mounted resistor network applications requiring reliability, stability, accuracy and low noise characteristics in the latest leadless configurations, specify the SON resistor network.

4 through 24 Terminals available.

Custom Circuits and Special Screening available.

POWER RATING @ 70°C (watts)

Model	Resistor	Network
NS4X N959 N989	0.1	0.4
NS7X N987 N989	0.1	0.7
NS8X N998 N999	0.1	0.8

General Note
Welwyn Components reserves the right to make changes in product specification without notice or liability.
All information is subject to Welwyn's own data and is considered accurate at time of going to print.

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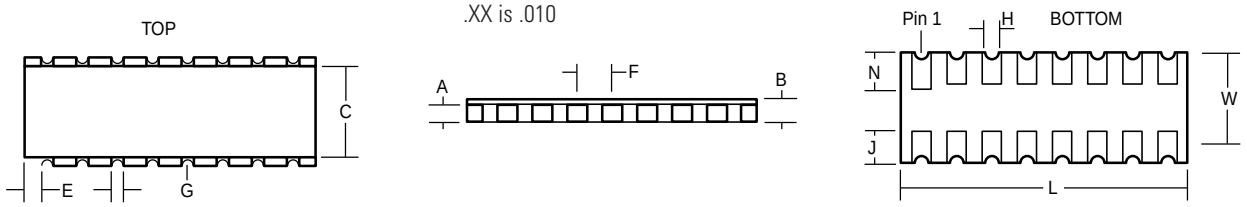
Physical Data

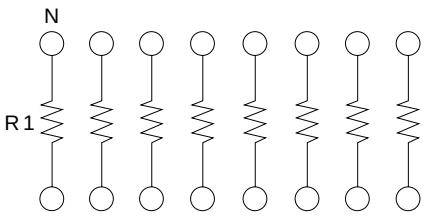
Dimensions (Inches)

	A	B	C	E	F	G	H	J	L	N	W
0.150 width											
NS4X 8 pad	0.027	0.028	0.125	0.025	0.050	0.009R	0.030	0.040	0.021±0.010	0.050	0.15
NS7X 14 pad	0.027	0.028	0.125	0.025	0.050	0.009R	0.030	0.040	0.36	0.050	0.15
NS8X 16 pad	0.027	0.028	0.125	0.025	0.050	0.009R	0.030	0.040	0.41	0.050	0.15
0.210 width											
N95X 8 pad	0.027	0.028	0.17	0.025	0.050	0.010R	0.030	0.040	0.20	0.050	0.21
N98X 14 pad	0.027	0.028	0.17	0.025	0.050	0.010R	0.030	0.040	0.35	0.050	0.21
N99X 16 pad	0.027	0.028	0.17	0.025	0.050	0.010R	0.030	0.040	0.40	0.050	0.21

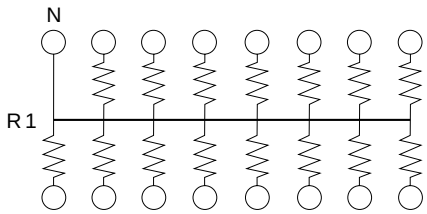
Tolerances unless otherwise noted –
.XXX is +.005
.XX is .010



Schematics



Schematic A



Schematic B

PACKAGING

Resistor arrays supplied in anti-static tubes.

ADDITIONAL ORDERING INFORMATION

Model Number			
NS4A, N959	4 resistor	Schematic A	8 pad SON
NS4B, N954	7 resistor	Schematic B	8 pad SON
NS7A, N989	7 resistor	Schematic A	14 pad SON
NS7B, N987	13 resistor	Schematic B	14 pad SON
NS8A, N999	8 resistor	Schematic A	16 pad SON
NS8B, N998	15 resistor	Schematic B	16 pad SON

Characteristic		
Code	**Classification**	**TCR (ppm/°C)**
01	Commercial Grade	±100
02	Commercial Grade	±50
03	Commercial Grade	±25
04	Military Screening	±300
05	Military Screening	±100
06	Military Screening	±50
07	Military Screening	±25

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