



TECHNICAL INFORMATION SHEET

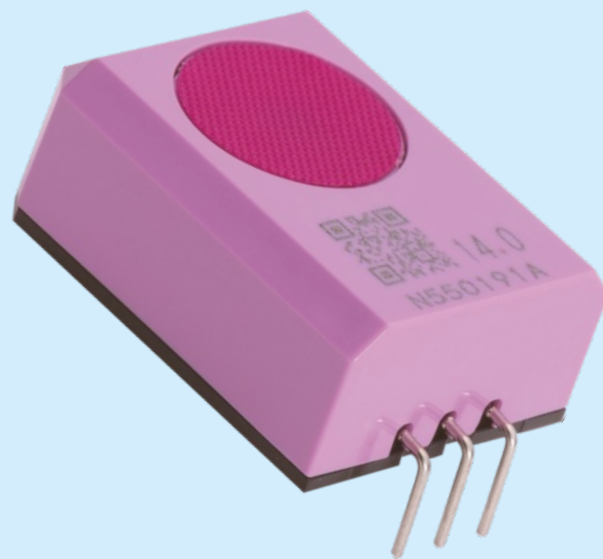
NAP-550 Electrochemical Nitrogen dioxide (NO₂) Gas Sensor

Nemoto & Co., Ltd.
Sensor Division
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Suginami-ku, Tokyo,
JAPAN

General Description

The NAP-550 is a new electrochemical gas sensor with 3 electrodes for the detection of Nitrogen Dioxide (NO₂) in a variety of gas detection applications. Exhibiting high performance with long term stability, this compact sensor is suitable for portable or disposable Gas Detection Instruments or Fixed Gas Detection heads alike. The NAP-550 is a version of the popular NE4-NO₂, designed to be mechanically compatible with the NAP-505 CO sensor.

Nemoto's porous electrode technology enables accurate gas detection with high sensitivity. The mechanical design of the sensor gives optimum gas diffusion characteristics, and the hermetically sealed enclosure prevents costly electrolyte leakage.



Specifications:

Detectable Gas	Nitrogen dioxide (NO ₂)
Detection Range	0-30 ppm
Minimum detectible limit	0.2 ppm
Output Current *	150nA +/- 30 nA/ppm
Reproducibility (same day)	+/- 2%
Zero in clean air	0 to 0.5ppm equivalent
Long Term Drift:	
Zero	< +/- 0.5ppm / Year
Span	< 4% Signal / Month
Response time (T _{90%})	< 25 seconds
Temperature drift (zero)	< +/- 2ppm (-20°C to +50°C)
Expected lifetime	> 2 years
Temperature Range:	-20°C to +50°C
Humidity range (constant)	15-90% RH
Humidity range (intermittent)	0-99% RH
Pressure	0.9 - 1.1 atm
Recommended load resistor	10 Ω
Storage time	6 months
(Without compromising lifetime)	

* Note that the polarity of the signal is negative - i.e. it is in the opposite direction to various other similar electrochemical sensors such as those for CO, H₂S etc.

Test data on drift, poisoning, temperature performance, linearity are available on the Characterisation Document.

Typical Cross-Sensitivities

Gas	% Cross-sensitivity
Nitrogen dioxide	100
Hydrogen sulphide	≈ 60
Hydrogen	0
Methane	0
Carbon dioxide	0
Sulphur dioxide	0
Nitric oxide	0
Carbon Monoxide	0
Ammonia	0
Ethanol	0
Ethylene	0
Chlorine	100

Nemoto has a policy of continuous development and improvement of its products. As such the specification for the device outlined in the data sheet may be changed without notice

Nap-550.ppp, issue 7, January 2019

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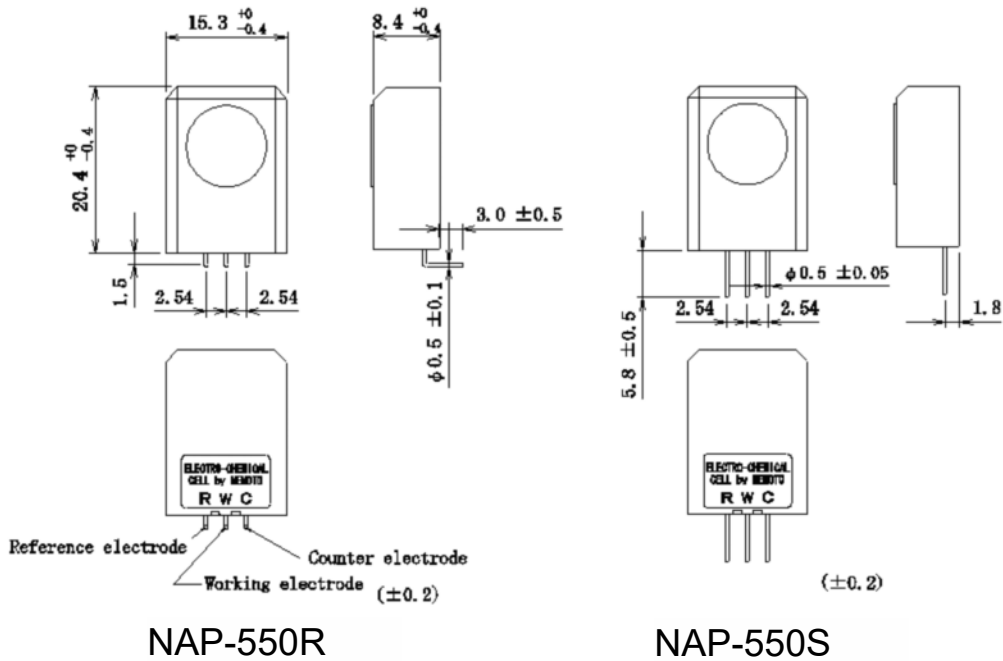
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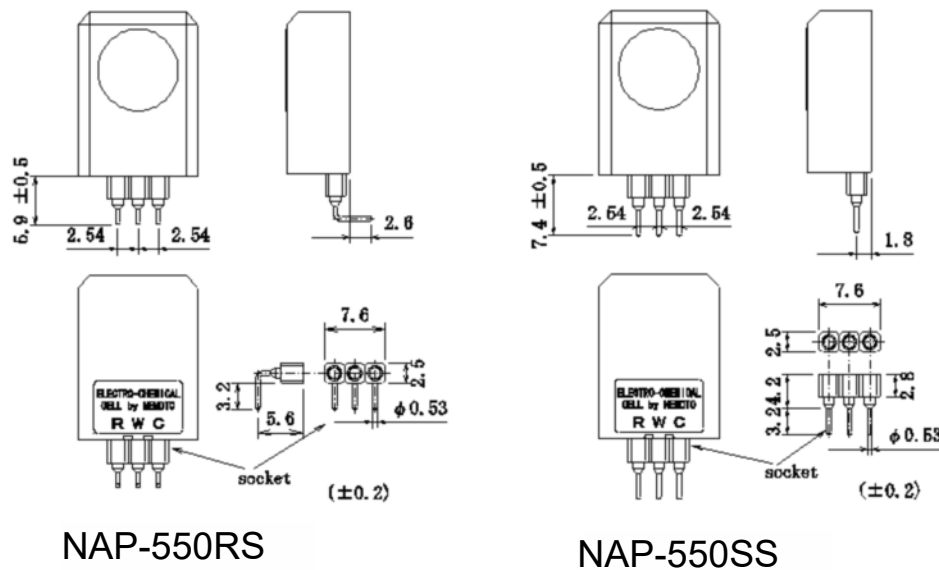
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Dimensions:

Direct Soldering Models



Socket Models



Note: The output signal of the NAP-550 sensor is of negative polarity compared to (for example) CO and H₂S sensors.

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