

# SIGNATONE

A division of LUCAS / SIGNATONE CORPORATION



Signatone is please to offer the following "Resistivity Standards"  
Please note that RS is an acronym for Resistivity Standard.  
Model numbers show wafer size in inches and nominal bulk resistivity in  $\Omega$ -cm

Model Number	Wafer Type	Nominal Bulk Resistivity	Nominal Sheet Resistivity
<input type="checkbox"/> SRS-0.002	3 inch p-type Silicon<100>	0.002 $\Omega$ -cm	0.04 $\Omega$
<input type="checkbox"/> SRS-0.01	3 inch p-type Silicon<100>	0.01 $\Omega$ -cm	0.2 $\Omega$
<input type="checkbox"/> SRS-0.03	3 inch p-type Silicon<100>	0.03 $\Omega$ -cm	0.6 $\Omega$
<input type="checkbox"/> SRS-0.3	3 inch p-type Silicon<111>	0.3 $\Omega$ -cm	6 $\Omega$
<input type="checkbox"/> SRS-0.9	3 inch p-type Silicon<111>	0.9 $\Omega$ -cm	18 $\Omega$
<input type="checkbox"/> SRS-25	3 inch p-type Silicon<111>	25 $\Omega$ -cm	500 $\Omega$
<input type="checkbox"/> SRS-30	3 inch p-type Silicon<111>	30 $\Omega$ -cm	600 $\Omega$
<input type="checkbox"/> SRS-57	3 inch p-type Silicon<111>	57 $\Omega$ -cm	1100 $\Omega$
<input type="checkbox"/> SRS-75	3 inch p-type Silicon<111>	75 $\Omega$ -cm	1500 $\Omega$
<input type="checkbox"/> SRS-90	3 inch p-type Silicon<111>	90 $\Omega$ -cm	1700 $\Omega$
<input type="checkbox"/> SRS-180	3 inch p-type Silicon<111>	180 $\Omega$ -cm	3500 $\Omega$

Price ea. **\$2,400.**

The attached is a Sample "Certification of Calibration Resistivity Standard".  
The Certification is based on the Model # SRS-0.002 and includes typical results.



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## CERTIFICATE OF CALIBRATION RESISTIVITY STANDARD

Model Number:	<b>SRS – 0.002</b>	Serial Number:	<b>9211-1002</b>
Substrate Material:	<b>Silicon</b>	Certification Program:	<b>rssrs00</b>
Wafer Mfg.:	<b>Virginia Semiconductor</b>	Lot No.:	<b>5000-11/01</b>
Orientation:	<b>&lt;100&gt;</b>	Type:	<b>P</b>
Diameter:	<b>76.2 mm</b>		

Measuring Current:	<b>100 mA</b>
Voltage-Current Ratio:	<b>0.00811 <math>\Omega</math></b>
(as measured with an ideally spaced 1.59 mm probe)	
Temperature Coefficient of Resistivity:	<b>0.00148 <math>1/^\circ\text{C}</math></b>

# SAMPLE

### CALIBRATED VALUES:

	<b>Mean</b>		<b>Expanded Uncertainty<sup>1</sup></b>
Thickness	<b>( 0.511</b>	$\pm$	<b>0.003 ) mm</b>
Sheet Resistance	<b>( 0.0366</b>	$\pm$	<b>0.0005 ) <math>\Omega</math></b>
Resistivity	<b>( 0.00187</b>	$\pm$	<b>0.00003 ) <math>\Omega</math> cm</b>

All measurements were made at the center of the standard.  
All measurements were corrected to 23  $^\circ\text{C}$ .

Resistivity Reference Standard: **NIST SRM – 1523 Slice 0.01-500**

Environmental conditions at the time of measurement:

Temperature:	<b>( 20.8 <math>\pm</math> 0.1 ) <math>^\circ\text{C}</math></b>
Humidity:	<b>( 56 <math>\pm</math> 2 ) %</b>

This standard is calibrated in accordance with ASTM F-84  
This standard is calibrated in compliance with ISO 10012-1 and ANSI/NCSL Z540-1-1994.  
Certificate data may not be reproduced, except in full, without authorization from VLSI Stds.

Certification Date: \_\_\_\_\_

<sup>1</sup> At the 95% confidence level, as defined by the ISO Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is obtained by multiplying the combined standard uncertainty by a coverage factor. Please see the Certificate of Calibration, Annex section (available upon request).