

Keithley Instruments, Inc.

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Part number 5155 Megohm Resistance Standards provide discrete reference sources with traceability to the National Institute of Standards and Technology. The 5155 consists of six individually encased resistors in thermal-lagged enclosures. The resistances are terminated with BNC connectors for easy interface and provision for shielding and/or guarding. A certificate is included giving actual values and test conditions at the time of measurements.

There are two versions of the 5155 that are available from Keithley; 5155 (Gray Casing) and 5155 (Black Casing):

5155 (Gray Casing) – Six standard resistors with nominal values from 10^7 through 10^{12} ohms in decade steps.

5155 (Black Casing) – Six standard resistors with nominal values from 10^8 through 10^{13} ohms in decade steps.

Specifications:

5155 (Gray Casing)	5155 (Black Casing)																												
<p>Resistor Values: Six nominal decade resistors, 10^7 (10MΩ) through 10^{12} (1TΩ), $\pm 3\%$.</p> <p>Accuracy: (Calibration Certificate values)</p> <table> <tr><td>10^7</td><td>$\pm 0.1\%$</td></tr> <tr><td>10^8</td><td>$\pm 0.1\%$</td></tr> <tr><td>10^9</td><td>$\pm 0.1\%$</td></tr> <tr><td>10^{10}</td><td>$\pm 0.1\%$</td></tr> <tr><td>10^{11}</td><td>$\pm 0.14\%$</td></tr> <tr><td>10^{12}</td><td>$\pm 0.14\%$</td></tr> </table> <p>Stability: Less than 0.1% change in value per year.</p> <p>Voltage Coefficient: Less than 5ppm / volt.</p> <p>Temperature Coefficient:</p> <table> <tr><td>10^7 through 10^{10}</td><td>$\pm 0.01\%$ / $^{\circ}\text{C}$.</td></tr> <tr><td>10^{11} and 10^{12}</td><td>-0.1% / $^{\circ}\text{C}$.</td></tr> </table> <p>Dimensions: Each resistance standard is 4 in. x 1 in. x 1 in. (100 x 25 x 25 mm.)</p> <p>Weight: Each resistance standard is approximately 6 ounces (170g). Standards in carrying case, 4lbs., 10 oz. (2.1 kg.).</p>	10^7	$\pm 0.1\%$	10^8	$\pm 0.1\%$	10^9	$\pm 0.1\%$	10^{10}	$\pm 0.1\%$	10^{11}	$\pm 0.14\%$	10^{12}	$\pm 0.14\%$	10^7 through 10^{10}	$\pm 0.01\%$ / $^{\circ}\text{C}$.	10^{11} and 10^{12}	-0.1% / $^{\circ}\text{C}$.	<p>Resistor Values: Six nominal decade resistors, 10^8 (100MΩ) through 10^{13} (10TΩ), $\pm 15\%$.</p> <p>Accuracy: (Calibration Certificate values)</p> <table> <tr><td>10^8</td><td>$\pm 0.2\%$</td></tr> <tr><td>10^9</td><td>$\pm 0.2\%$</td></tr> <tr><td>10^{10}</td><td>$\pm 0.2\%$</td></tr> <tr><td>10^{11}</td><td>$\pm 0.2\%$</td></tr> <tr><td>10^{12}</td><td>$\pm 0.2\%$</td></tr> <tr><td>10^{13}</td><td>$\pm 0.5\%$</td></tr> </table> <p>Stability: Less than 0.1% change in value per thousand hours.</p> <p>Voltage Coefficient: -0.03% per volt, nominal.</p> <p>Temperature Coefficient: -0.1% per $^{\circ}\text{C}$, nominal.</p> <p>Dimensions: Each resistance standard is 4" long x 2" deep x 1" wide.</p> <p>Weight: Each resistance standard is approximately 6 ounces. Six Standards in carrying case, 3.5 pounds.</p>	10^8	$\pm 0.2\%$	10^9	$\pm 0.2\%$	10^{10}	$\pm 0.2\%$	10^{11}	$\pm 0.2\%$	10^{12}	$\pm 0.2\%$	10^{13}	$\pm 0.5\%$
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