

A GREATER MEASURE CONFIDENCE

KEITHLEY INSTRUMENTS, INC. = 28775 AURORA RD, CLEVELAND, OHIO - USA = 440-248-0400 = Fax: 440-248-6158 = 1-888-KEITHLEY = www.keithley.com



Calibration Certificate

Manufacturer: Keithley Instruments, Inc.

Model Number: 2001-758D Serial Number: 7764 ID Number: 7764

Calibration Date: 25-Aug-2011

Certificate Number: 7764:20110825102545

Procedure Number: QA-7141 23.2 °C Ambient Temperature: 40.7 % Relative Humidity:

Customer Information:

Keithley Instruments Inc Taiwan

Purchase Order Number:

As Returned Conditions (As Left): As Received Conditions (As Found): (In Tolerance Repairs Needed In Tolerance

C Out of Tolerance C NA C Subject to Restricted Use

- · Keithley Metrology Services certifies that the above instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national standards. This calibration complies with the requirements of ISO/IEC 17025:2005.
- The Keithley Instruments, Inc., quality system is registered to ISO 9001:2008.
- · This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.
- · The test results shown in this report apply to the calibrated item identified on page 1 of this certificate.
- · This calibration certificate shall not be reproduced, except in full, without the written approval of the laboratory.
- · The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.
- · Test status is PASS unless indicated otherwise.
- Testpoints marked with a preceding "*" are not accredited.
- · No adjustments were made to the unit under test during this calibration event.

Calibration Standards Used:

<u>Manufacturer</u>	Model Number	Control Number	<u>Due Date</u>
Keithley	HRTS	7294	06-Nov-2011
Keithley	263	4908	30-Aug-2011
Keithley	2002	1145	05-Feb-2012
Keithley	642	9389	CNR
Keithley	5155-8	3667	29-Sep-2011
Hart Scientific	1560	9143	CNR
Hart Scientific	2563	9144	06-Apr-2012
Thermometrics	S-15	7876	14-Jan-2012

Helga A. Alexander
Helga A. Alexander Approved By: Technician: 5205 FM-7.6-073 Rev.J

Metrology Services Manager

Measurement Report

Calibration Date: 25-Aug-11

Manufacturer: Keithley Instruments

Model Number: 2001-758D Serial Number: 7764 Asset/ID Number: 7764 Report Number: 7764:20110825102545

Measured Value

Expanded Uncertainty (95% CL;k=2)

 $87.0 \mu\Omega/\Omega$

9.239 780 0 E+08 Ω

Calibration Conditions:

The measured value is determined with approxmately 1 volt developed across the unit under test (UUT) during the calibration process. The reported measured value has NOT been corrected for temperature or time drift.

End of Measurement Report