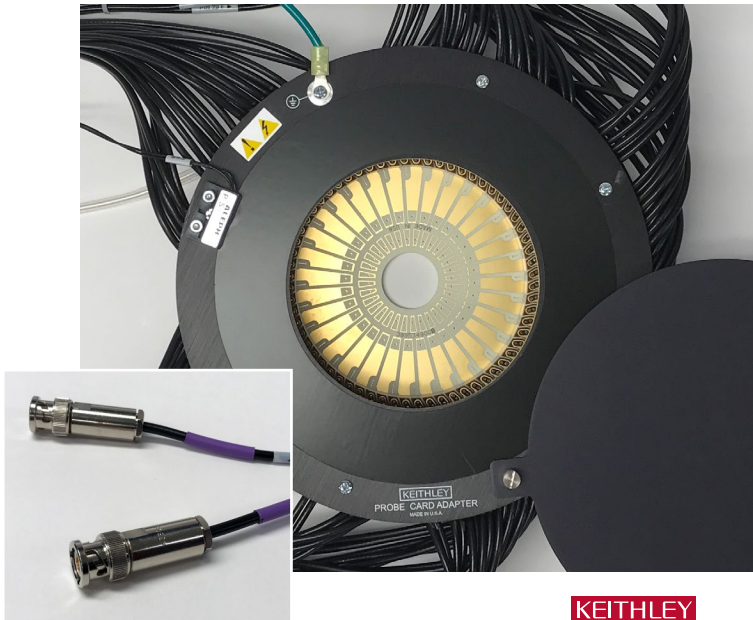


9139B-PCA Probe Card Adapter

Datasheet



The 9139B-PCA Probe Card Adapter is a specially-designed fixture that, when installed in a semiconductor wafer prober, simplifies interfacing between the test system cables and the probe card used to contact the device under test. The 9139B-PCA is an option for Keithley's S530/S535 Parametric Test Systems and S500 Integrated Test Systems and provides probe-card compatibility with Keithley's previous generation S400 Parametric Test System.

The 9139B-PCA enables the low-current capabilities of the S530/S535 Parametric Test Systems. Leakage paths are minimized by using low-leakage materials for the probe card assembly. Each pin provides a set of fully guarded source and measure lines to the probe card, which improves low-current measurement accuracy by maintaining system specifications to the DUT. Leakage is also minimized by using short, direct connections and by extending the guard traces through to the probe pin connections.

Key Features

- Supports 1100 V to all 64 pins
- Utilizes guarded connections to minimize leakage current
- Preserves full Kelvin connections to the probe card
- Supports many probers

The 9139B-PCA improves upon the performance of the 9139A-PCA. The 9139B-PCA supports 1100 V on all 64 pins; the purple sleeve on the triax cables indicates 1100 V capability. The 9139B-PCA requires use of the 9139B-172 probe card.

Low-current measurements are faster with the 9139B-PCA. The short length of the connections between the DUT cables and the probe pins reduces capacitive coupling between probe pins. The extended guards further reduce capacitance and enable faster rise times.

The 9139B-PCA provides full Kelvin sensing to the probe, improving voltage force and measure accuracy over conventional connector/probe card methods. Offset voltage between the system and the DUT is minimized, and voltage drops across cables from the voltage measurement of the DUT are eliminated.

The 9139B-PCA supports a variety of established and new prober systems from vendors including Accretech/TSK, Tokyo Electron (TEL), Electroglas, and others, and allows easy probe hardware interchange between probers. Positive probe card mounting with a vacuum locking mechanism expedites probe card changes with accurate and repeatable alignment.

The 9139B-PCA supports integration with industry standard top-loading hinged interfaces available from Reid-Ashman and inTEST Corporation.

The 9139B-PCA is completely assembled and tested by Keithley for faster start-up through turn-key installation and has guaranteed measurement performance without the limitations associated with edge connector methods.

Easy Hardware Configuration

The 9139B-PCA is compatible with a variety of probers that incorporate a ring-mount probe carrier. A strain relief is also provided to physically clamp the DUT cables.

Pogo pins that are anchored in a PTFE ring connect to the probe card. These pins carry source, measure and guard to the probe card. The probe card, which is secured by a vacuum support ring, extends the separate source, measure, and guard paths to the pad where the probe is soldered.



Ordering Information

9139B-PCA	Probe Card Adapter
-----------	--------------------

Probers Supported*

Accretech/(TSK)	UF190/R, UF200/R, UF300, UF2000, UF3000, UF3000EX/EX-e, UF3000LX
TEL	P-8, P-8XL, P-8XLm, P-8XL with SACC, P-12, P-12XL, P-12XLn/n+/m, Precio, Precio Octo, Precio Nano, Precio XL
Electroglas	EG2001, EG2010, EG3001, EG4060/70/80/85/90

* Refer to your system's reference documentation for details on probers supported by Keithley Test Environment (KTE) system software. Contact Keithley for information on support for other prober models.

Specifications

Electrical

Maximum Voltage from Pin-to-Ground or Pin-to-Pin	1100 V (requires 9139B-172 probe card)
Leakage	Pin-to-Ground (guard driven): 0.2 pA/V Pin-to-Pin (guard driven): 0.1 pA/V
Capacitance (typical)	Pin-to-Pin (guard shunted to ground): 0.5 pF

The 9139B-PCA and 9139B-172 probe card, when used together, meet safety specification IEC 61010, third edition.

Mechanical

Maximum Number of Pins	64
Probe Card Diameter	6 inches
Maximum Test Structure Size	0.4 inches × 0.4 inches (10 mm × 10≈mm)
Vacuum Source	20 inches Hg minimum

Contact Information:

- Australia*** 1 800 709 465
- Austria** 00800 2255 4835
- Balkans, Israel, South Africa and other ISE Countries** +41 52 675 3777
- Belgium*** 00800 2255 4835
- Brazil** +55 (11) 3759 7627
- Canada** 1 800 833 9200
- Central East Europe / Baltics** +41 52 675 3777
- Central Europe / Greece** +41 52 675 3777
- Denmark** +45 80 88 1401
- Finland** +41 52 675 3777
- France*** 00800 2255 4835
- Germany*** 00800 2255 4835
- Hong Kong** 400 820 5835
- India** 000 800 650 1835
- Indonesia** 007 803 601 5249
- Italy** 00800 2255 4835
- Japan** 81 (3) 6714 3010
- Luxembourg** +41 52 675 3777
- Malaysia** 1 800 22 55835
- Mexico, Central/South America and Caribbean** 52 (55) 56 04 50 90
- Middle East, Asia, and North Africa** +41 52 675 3777
- The Netherlands*** 00800 2255 4835
- New Zealand** 0800 800 238
- Norway** 800 16098
- People's Republic of China** 400 820 5835
- Philippines** 1 800 1601 0077
- Poland** +41 52 675 3777
- Portugal** 80 08 12370
- Republic of Korea** +82 2 565 1455
- Russia / CIS** +7 (495) 6647564
- Singapore** 800 6011 473
- South Africa** +41 52 675 3777
- Spain*** 00800 2255 4835
- Sweden*** 00800 2255 4835
- Switzerland*** 00800 2255 4835
- Taiwan** 886 (2) 2656 6688
- Thailand** 1 800 011 931
- United Kingdom / Ireland*** 00800 2255 4835
- USA** 1 800 833 9200
- Vietnam** 12060128

* European toll-free number. If not accessible, call: +41 52 675 3777



Find more valuable resources at TEK.COM

