NEW P6521 Very High Density Probe Card

**Contents**

**NEW P6521 Very High Density Probe Card (VHD Probe Card)**

**APPLICATIONS**
- AC and DC Die Sorting at the Water Level
- VLSI Testing

**FEATURES**
- Controlled impedance to Probe Tip
- Over 1 GHz, 175 ps Rise Time
- Low Maintenance and Long Life
- Density Over 360 Contacts and 4 mil Pitch

**ORDERING INFORMATION**

P6521 (VHD) Probe Card

P6521 VHD Probe Card Data Sheet

489-718-1 NC

Contact your local sales representative.

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The Tektronix P6521 VHD probe card is used for acousto-optic sort at the water level to guarantee performance prior to packaging. Sorting at water level reduces package cost and selects unprocessed ICs with critical ac speeds.

The P6521 consists of a thin film, high performance photodetector hybrid on which probe tips or contact pads are connected to controlled impedance strips lines. The hybrid is bonded mechanically and electrically to a rigid circuit board containing the test head "contactor footprint." Interface cards exist for most VLSI systems and in-house custom ATE.

The new industry standard 370 and 371 curve traces provide dc parameter characterization of transistors, diodes, SCRs, MOSFETs, discrete electronic components, solar cells, solid state displays, and semiconductor devices. The 370 and 371 provide measurements to compare a device to the manufacturer's specifications, identification of components with the same characteristics and failure analysis.

**PROGRAMMABLE CONTROL**

- With non-volatile memory cartridges, the 370/371 provide automatic test sequencing. Also the GPIB interface and a PEP 301 or other IBM compatible PC allow external control test sequencing. With either method, the 370 or 371 front panel setting can be recalled and measurements made with storage of the results for later review or comparison.

**INTERACTIVE CONTROL**

The 370 and 371 use the same familiar interactive manual controls that are available on Tektronix 576, 5770 and 5772 curve traces. With interactive control, characteristics can be refined for unique devices during research or design. After the completion of the characterization definition, the interactive setting can be automated by storing the curve tracing setting in the curve tracer's non-volatile memory or an external controller.

**DIGITAL STORAGE DISPLAY**

The digital storage displays a bright, flicker-free trace and allows precise measurements and comparisons. There are 100 points per division in the vertical and horizontal directions for high resolution measurements. On-screen readout displays specific settings to ensure accurate measurements and eliminate interpretation errors.

On-screen annotation with 24 characters of displayed information can be done from either the front panel or remotely from an IBM PC compatible controller such as the Tektronix PEP 301.

**SOFTWARE**

- For automated custom device characterization, the 370 Utility Software and 371 Utility Software with an IBM PC such as the Tektronix PEP 301 provides customized tests, considering parameters, and logging of results. The 370 Device Test Software allows automatic characterization of most semiconductor components.

**PREREQUISITE**

- Linear sweep measurement range is 1.0 m/s per division (1 mV resolution) to 2 A/div for collector current and 100 nA/div (1 µA resolution) to 2 mA for emitter current.

**STEP GENERATOR**

The step generator has 0 to 10 steps, 50 mA to 200 mA in the current mode and 50 mV to 2 V in the voltage mode. Off-set control is variable from 0 to ±10X step amplitude. In pulsed mode, the step generator changes from stair step output to either 80 µs or 300 µs wide pulses.

**AUXILIARY SUPPLY**

The auxiliary supply is a third-stage source for biasing devices from 40 V to +40 V with 20 mA resolution.

**370/371**

The 370/371 is a complete 370 curve tracer system that includes the 370, PEP 301 controller (IBM compatible computer) with GPIB interface/GPIB software/system hardware, HCT40 four color plotter for direct 370 hardcopy. S48P/14 Device Test Software for automatic measurements and S48P/16 Utility Software for custom device measurements.

**S370FA**

The 370 automatically the test of identifying failed pins on integrated circuits with up to 567 pins. The S370A is specifically for identification of the pins which have failed before lid removal of integrated circuits. The S370A system software highlights results from pins that don't match normal performance as well as pins results from all pins for future reference or comparison. The S370A can be easily configured as a standard 370 with a PEP 301 and GPIB interface.
370/371 SEMICONDUCTOR TESTERS

370

Device Test Software
- Automatic Measurements from a PEP 381 IBM Computer
- Select Common
- Select One At Common
- Device Test Software
- Select One At Common
- Measure Voltage
- Select Logic Test Program
- Source Code Included
- Log Files for Storage of Results

370 or 371 Utility Software
- Automatic Measurements from a Tektronix PEP 381 with IBM or HP Compatible
- Develop Custom Test
- Test Archives and Front Panel Settings
- Example Test Programs
- Source Code Included
- Log Files for Storage of Results

371 CHARACTERISTICS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Power Watts</td>
<td>300** 30** 3**</td>
</tr>
<tr>
<td>Collector Current Available</td>
<td>400 40 40 4 mA</td>
</tr>
<tr>
<td>Maximum Peak Collector Voltage</td>
<td>30 30 3 k 3 k</td>
</tr>
<tr>
<td>250 ps pulsed collector supply</td>
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<tr>
<td>Siexwace collector supply</td>
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Test Fixtures

The fixturing is a standard accessory that provides a suitable platform for device measurement. Devices are mounted on these fixtures to ensure accurate and consistent results.

Collector Current

The collector current is measured directly from the fixture, allowing for precise and accurate readings.

Collector Voltage

The collector voltage is measured to ensure the fixturing is suitable for the specific device being tested.

Interactive Control

The interactive control feature allows for real-time adjustment of the fixturing settings to ensure optimal performance.

DISPLAY

The display provides a clear and comprehensive view of the measurement results, facilitating easy evaluation and interpretation.

Current measurement range is 5 µA per div for 2000 V per div for emitters.

Collector/Base/Emitter Voltage

Measurement range is 5 psi in 0.5 V steps in 20 V increments for the collector and 50 V measurement resolution to 2 V for base or emitter voltage.

Test Fixture

The standard test fixture (350-0458-01) is a plug-in to the 376 with two sets of 5 psi load terminals and operator safety shield. The test fixture is designed to replace the standard test fixture with the optional SMT Power Supply. The 376 Power Supply is a plug-in accessory to the 350-0458-01 test fixture, allowing for greater flexibility in testing.

ORDERING INFORMATION

370 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).

371 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).

370/371 SEMICONDUCTOR TESTERS

357/16 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).

357/16 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).

357/16 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).

357/16 Curve Tracer
- Standards: Include test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), A2000 trigger adapter, test fixture (350-0458-01), and test fixture (350-0458-01).