



DVT30-1MM GigaProbes™ (patent pending) use multi-mode tips (100 Ω Differential or 50 Ω Single Ended) to capture 30 GHz, ODD/EVEN impedance profiles. With a typical differential launch discontinuity of <20 mv and a fall-time of 20 ps, the probe masks only ~ 0.5 mm of the device under test. A small discontinuity mask is important when characterizing IC packages where net lengths can be very short.

The DVT30-1MM comes with a set of cushion grips for comfortable hand probing and is easily attached to most Probe Station micro-manipulators providing a 76.2 mm, low profile, wide band reach.

The Signal-to-Signal pitch can be set to 0.8 mm, 1.0 mm or 1.27 mm using the Pitch Calibration SMA wrench (patent pending). The pitch can be customized using other tools supplied in the DVT30-1MM GigaProbes™ accessory kit.

Conductive Diamond plating technology place 100's of sharp diamonds in a nickel/gold matrix onto the probe tips. The diamonds do not corrode and allow the user to break through oxide with a probing force of only 10 grams. This creates a temporary connection when probing at any angle equal to that of lead solder.

Product Description

DVT30-1MM GigaProbes™ are stored in a durable box also containing probe calibration and support accessories. Each DVT30-1MM GigaProbes™ kit contains:

- 30 GHz TDR Probe (2)** (patent pending) Convertible to Single 50 ohm or Differential 100 ohm, with gold plated Conductive Diamond probe tips for repeatable high-bandwidth TDR measurements when probing at ANY angle
- GPMMA (1)** Attaches probe to standard micro-positioner (fig. 2)
- Stainless Steel 110mm Tweezers (1)** for Fine Pitch Probe Adjustments
- Desk-Top 5X Macro-Lens (1)** Inspection Station
- Model 10 SMA Wrench (1)** (patent pending) with Quick Calibrator Holes to set probe pitch to 0.8 mm, 1.0 mm, or 1.27 mm and set the probe tips on the same plane (fig. 3)
- Hand Held Probe Sleeve Adapters (2)** with EZ-Hold Foam Cushions (fig. 1)
- Right Angle SMA Elbows (4)** for easy routing of TDR of SMA cables (fig. 1)
- 50 ohm conversion kit** includes 2 SMA shorting caps, ground strap and shrink wrap.
- Cable Routing Sleeve (1)** to combine SMA cables for easy cable management
- Resource CD (1)** with application notes

On-line website support: Free download TDR/ S-parameter & application Seminar: <http://www.gigaprobes.com/freetdrspramseminar.html>

For more information contact: <http://www.gigaprobes.com>

Features & Benefits

30 GHz Bandwidth

True Odd Mode 100 ohm Differential Input Impedance

Probe can be converted to 50 ohm input impedance

TDR Launch Discontinuity <20 mv

Fall Time 20 ps or <5 ps Fall Time Degradation

Fully Balanced Differential Signals without Ground Contact

Adjustable Probe Pitch from 0.25 mm to 2.0 mm

Probe Tip diameter 0.254 mm

Probe at any angle with gold plated Conductive Diamond non oxidizing probe tips, improve repeatable measurements with a probe force <10 grams

Universal Probe Design, Use as Hand Probe or Mount in most Probe Station Micro-Positioner

Full Set of Probe Pitch Calibration Accessories

Applications

Loss Tangent Measurements for Differential and Single Ended Transmission Lines

Failure Analysis of PCB with or without Components Mounted

(TDR) Impedance Testing of IC Package, Cable, PCB, Backplane

Characteristics

Attenuation: 1X

Probe Only Bandwidth: 30 GHz

TDR Degradation: <5 ps

Probe Pitch: 0.25 mm to 2 mm (signal tip to signal tip)

Connector Type: SMA

Measured Reflected TDR Fall Time: 20 ps

Impedance: 100 Ω differential, 50 Ω common mode, 50 Ω Single Ended

Max Voltage In: 5.0 V

(Note: numeric values shown are typical).



GigaProbes™ complete TDR probing kit
Cables are ordered separately

The **GigaProbes™** accessories kit makes the probe adaptable for almost any TDR probing requirement. Figures 1 and 2 demonstrate how to use GigaProbes accessories to configure the probe for manual use or to mount the probe on a station micro-positioner. Figure 3 shows how the pitch is set for the Signal - Signal probe.

Figure 4 shows the gold plated Conductive Diamonds on the probe tips. This technology is offered by Giga Connections, inc. (www.gigaconnections.com) and plates 100's of sharp diamonds in a nickel/gold matrix on the probe tips. Conductive diamonds do not corrode and serves to break through oxide buildup requiring only 10 grams probing force for repeatable TDR measurements.

Figure 5 shows a GigaProbe connected directly to a PSPL 4022TDT to generate a 30+ GHz differential or single ended TDR pulse. Figure 6 demonstrates the TDR rise time performance exceeding a bandwidth of 30 GHz. The DVT30-1MM is the fastest hand held probe available for use with LeCroy, Tektronix, and Agilent TDR oscilloscopes. **For more information contact:** <http://www.gigaprobes.com>

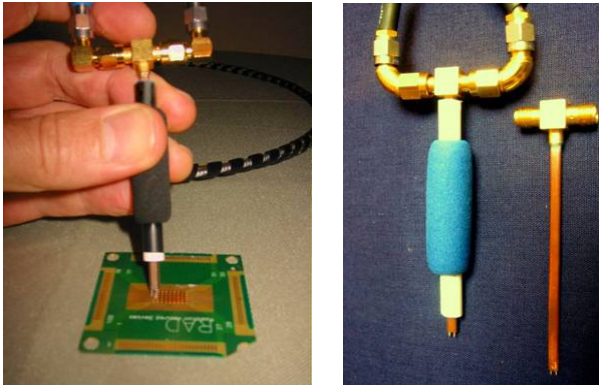


Fig. 1) Comfortable Hand Held probing - Slide on the probe sleeve adapter with EZ-hold foam cushion.



Fig. 4) Gold Plated Conductive Diamond Probe Tips (patent pending) – Hundreds of sharp, non-oxidizing, conductive diamonds on the probe tips break through surface oxide when probing, to create a connection equal to that of lead solder. Conductive Diamond technology improves repeatability of TDR measurements when probing at any angle.

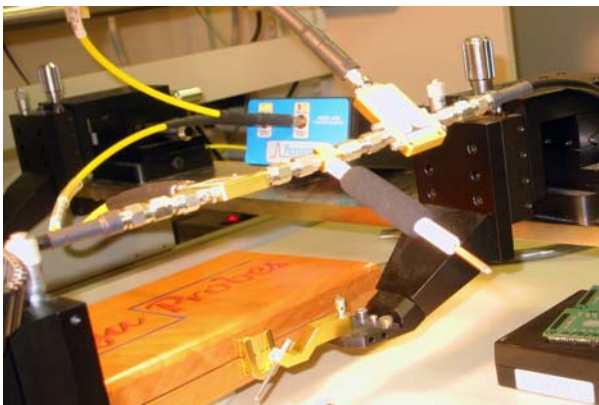


Fig. 5) shows a GigaProbe connected directly to a PSPL 4022TDT to generate a 30+ GHz differential or single ended TDR pulse. This picture shows a differential TDR probe configuration. A micro-positioner can also be used to hold the probe.

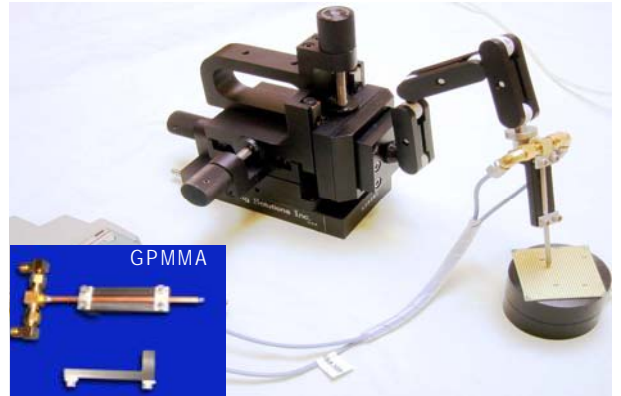


Fig. 2) Attaching GigaProbes™ to Micro-positioner – The **GPMMA** adapter is a standard accessory that attaches the probe to standard Micro-positioner used with Probe Stations.



Fig. 3) Signal - Signal Pitch Calibration (patent pending) - Place the probe tips in the model 10 SMA calibration wrench to adjust S – S pitch to a fixed 0.8 mm, 1.0 mm. or 1.27 mm spacing. Use the **Desk-Top Macro-lens** Inspection Station to view probe tips and the precision **Stainless Steel Tweezers** for fine pitch adjustments.

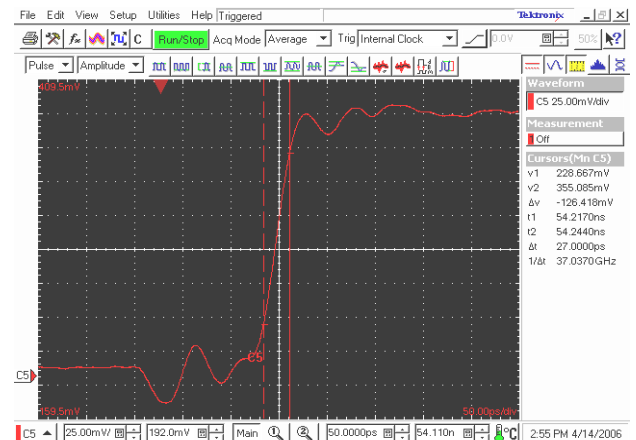


Fig. 6) Differential rise time - Using a 50 GHz TDR sampling system driving a PSPL 4022TDT 9 ps TDR pulser, the measured bandwidth exceeds 30 GHz.