High Resolution Calibrated True Differential TDR Fact Sheet

Time Domain Reflectometers

TELEDYNE TEST TOOLS
Everywhereyoulook™

Debug with Precision

10 GHz – 15 GHz

Key Specifications

Model	T3SP10D	T3SP15D
Frequency	10 GHz	15 GHz
Measurements	TDR, DTDR, S-Parameter, Smith Chart	
Rise Time	50 ps	35 ps
Memory	Up to 50,000 points	
Battery Operated (option)	Yes	
Dimensions	220 x 210 x 82.5 mm	

Affordable Tools for Precision Debugging

• **True Differential TDR up to 15 GHz** – Best for twisted pair and differential design	✓ No ground connection required.
• **Small Form Factor and Battery Powered** – Measure and analyze in the lab, factory floor or in the field.	✓ Measure and analyze everywhere you go without an AC requirement.
• **S Parameter – S11 Measurements** – Analyze transmission lines, cable, connectors and adaptors in the frequency domain.	✓ Precisely and rapidly identify any frequency related signal integrity impairments.
• **35 ps Rise Time (SP15D) 50 ps (SP10D)** – Achieve less than 3 mm fault resolution (SP15D).	✓ Precisely locate and identify with high resolution signal integrity artifacts.
• **Up to 50,000 points long memory** – Long TDR record capture with high resolution.	✓ Characterize up to 40 m long cables with more detailed measurement data.
• **Pre-Compliance for Emerging Serial Data Standards** – USB, BroadR-Reach, HDBaseT.	✓ Debug serial data standards easily.

For more information, please contact:

AUTHORIZED TELEDYNE LECROY Everywhereyoulook DISTRIBUTOR

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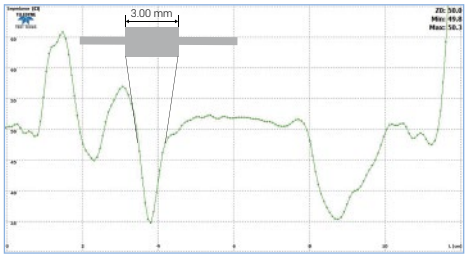
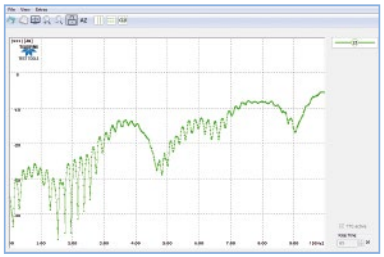


OSL calibration in time domain avoid aberrations effects in impedance plots and let the user identify impedance anomalies with less than 3 mm resolution.

Based on the true differential design, there is no need for a physical ground connection if differential lanes are measured.



The T3SP1xD series offer full calibrated S-parameter (S11) measurements up to 15 GHz.

T3SP10D and T3SP15D offers great value being affordable, small, simple to use, portable and lightweight with unique specifications for differential lines and high accuracy in detecting and locating with high spatial resolution any signal integrity issue.

Ultra-portable and Battery operated

T3SP10D and T3SP15D are designed to be used wherever measurements have to be performed. The battery pack option allows up to 3 hours of operation.

Full calibrated

Using three calibration standards (open, short, load) in the time domain instead of using a simple normalization which is common in TDR-instruments offers the highest accuracy both in the impedance profile measurements as well as in the S-11 Return Loss frequency response.

ESD protected

The T3SP-Series is protected against electrostatic discharge (ESD) isolating the high-frequency front-end when connecting and during the set-up.

TDR-Probes

The differential TDR Probe provides an ideal solution for TDR circuit board impedance characterization

Ordering information

Product Description	Product Code
Differential TDR – 10 GHz, 50 ps Rise Time, ESD protection, 2 phase matched SMA cables	T3SP10D
Differential TDR – 10 GHz, 50 ps Rise Time, ESD protection, 2 phase matched SMA cables, SMA Cal. Kit	T3SP10D-Bundle
Differential TDR – 15 GHz, 35 ps Rise Time, ESD protection, 2 phase matched 3.5 mm cables	T3SP15D
Differential TDR – 15 GHz, 35 ps Rise Time, ESD protection, 2 phase matched 3.5 mm cables, 3.5 mm Cal. Kit	T3SP15D-Bundle
Phase Matched SMA cables (50 ± 1 Ohm, <1 ps skew)	T3SP-CABLE-SMA
Phase Matched 3.5 mm cables (50 ± 1 Ohm, <1 ps skew)	T3SP-CABLE-3.5MM
Differential TDR-Probe (high precision, 18 GHz, 0.5 – 5.0 mm variable pitch)	T3SP-DPROBE
Differential TDR-Probe (economic, 5 GHz, 2.5 or 5 mm fixed pitch)	T3SP-DPROBE-F
OSL Calibration Kit SMA with torque wrench, female	T3SP-CALKIT-SMA
OSL Calibration Kit 3.5MM with torque wrench, female	T3SP-CALKIT-3.5MM
Storage and Travel Case (aluminum suitcase for TDRs and accessories)	T3SP-CASE
Battery Internal	T3SP-ACCU
Battery Internal Accu Pack – Upgrade	T3SP-ACCU-UPGRADE
Demo and Verification Board	T3SP-BOARD