

Probe Selection Guide



Probe / Oscilloscope Compatibility

	 BNC	 TekProbe LEVEL1	 TekProbe LEVEL2	 TekVPI	 TekVPI w/ HardKey	 FlexChannel	 TekConnect
 Std BNC TDS1000/2000 TBS1000 TPS2000 THS3000	●	● <i>Readout not functional</i>	● <i>1103 POWER SUPPLY (50Ω termination may be required)</i>	×	×	×	×
 TekProbe LEVEL1	●	●	● <i>1103 POWER SUPPLY (50Ω termination may be required)</i>	×	×	×	×
 TekProbe LEVEL2 TDS3000 TDS5000 TDS7054/7104	●	●	● ^{*1}	×	×	×	×
 TekVPI TBS2000 MSO/DPO2000 MSO/DPO3000 MSO/DPO4000 DPO7000C	●	●	● ^{*2} TPA-BNC	● ^{*2, *3, *5}	×	×	×
 TekVPI w/ HardKey 3 Series MDO MSO/DPO4000B MDO3000/4000C MSO/DPO5000	●	●	● TPA-BNC	● ^{*4, *5}	●	×	×
 FlexChannel 4 Series MSO 5 Series MSO 6 Series MSO	●	●	● TPA-BNC	●	●	●	×
 TekConnect MSO/DSA/DPO70000 TDS6000 TDS7154/B, 7254B, 7404B, 7704B, CSA7154, 7404/B	● TCA-BNC	● TCA-1MEG	● TCA-1MEG (ADA400A, P52xx) or TCA-BNC	● TCA-VPI50 (50Ω probe only)	×	×	●

^{*1} Some probes require an external power supply (1103) when used with the TDS3000 series

^{*2} When using with MSO / DPO2000 series, a dedicated AC adapter (119-8726-00) and a power cable (161-0342-00) are required.

^{*3} When using with MSO / DPO3000 series, depending on the probe you may need a separate AC adapter (119-8726-00) and a power cable (161-0342-00).

^{*4} When using with MSO / DPO5000 series, separate AC adapter (119-8726-00) and power cable (161-0342-00) may be required depending on the probe model and number.

^{*5} When using with TBS2000 and MDO3000 series, the total power draw capacity can not exceed the maximum power supply capacity of the oscilloscope, see [here](#) for more information.

^{*6} Readout does not function in the TBS2000 series.

Passive Probes

Passive voltage probes ship standard with most [oscilloscopes](#) and provide a low cost, general purpose probing solution. Generally, these probes lack the performance of an active voltage probe but provide the ruggedness and wide dynamic range suitable for visualizing signals over a broad range of applications. Tektronix has released a new class of passive probes that redefine performance in the passive probe product category.

Tektronix new class of passive probe solutions offer:

- Best-in-class bandwidth up to 1 GHz
- Best-in-class input capacitance as low as 3.9 pF which minimizes probe loading effects
- Best-in-class input capacitance which minimizes performance loss when long ground leads are attached
- Automated probe compensation eliminating the need for the compensation screwdriver



TPP1000 / TPP0500B



TPP0200 / TPP0100



P6139B

Performance Passive Probes

Model	Bandwidth	Attenuation	Input Impedance	Maximum Voltage	Interface	Compensation Range
TPP1000	1000 MHz	10X	10 MΩ 3.9 pF	300 V _{rms} (CAT II)	TekVPI w/ Key	-
TPP0500B	500 MHz	10X	10 MΩ 3.9 pF	300 V _{rms} (CAT II)	TekVPI w/ Key	-
TPP0502	500 MHz	2X	2 MΩ 12.7 pF	300 V _{rms} (CAT II)	TekVPI w/ Key	-
TPP0250	250 MHz	10X	10 MΩ 4 pF	300 V _{rms} (CAT II)	TekVPI w/ Key	-
TPP0051	50 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	BNC	15 – 25 pF
TPP0100	100 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	BNC	8 – 18 pF
TPP0101	100 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	BNC	15 – 22 pF
TPP0200	200 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	BNC	8 – 18 pF
TPP0201	200 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	BNC	15 – 25 pF
P2220	6 MHz, 200 MHz	1X, 10X	1 MΩ 110 pF, 10 MΩ 17 pF	150 V _{rms} (CAT II), 300 V _{rms} (CAT II)	BNC	15 – 25 pF
P2221	6 MHz, 200 MHz	1X, 10X	1 MΩ 110 pF, 10 MΩ 17 pF	150 V _{rms} (CAT II), 300 V _{rms} (CAT II)	BNC	10 – 25 pF
P5050B	500 MHz	10X	10 MΩ 11 pF	300 V _{rms} (CAT II)	TekProbe LEVEL1	15 – 22 pF
P6139B	500 MHz	10X	10 MΩ 8 pF	300 V _{rms} (CAT II)	TekProbe LEVEL1	8 – 18 pF
P6101B	15 MHz	1X	1 MΩ 100 pF	300 V _{rms} (CAT II)	BNC	-
P3010	100 MHz	10X	10 MΩ 12 pF	300 V _{rms} (CAT II)	TekProbe LEVEL1	10 – 15 pF
THP0301	300 MHz	10X	10 MΩ 11 pF	300 V _{rms} (CAT II)	BNC	

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

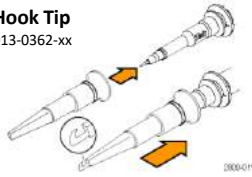
Optical

Passive Probes – Accessories

Standard Accessories

Hook Tip

013-0362-xx



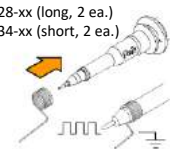
Micro-Hook Tip

013-0362-xx



Ground Springs

016-2028-xx (long, 2 ea.)
016-2034-xx (short, 2 ea.)



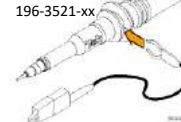
Universal IC Cap

013-0366-xx



Ground Lead, with Alligator Clip

196-3521-xx



Insulator Sleeve

342-1194-xx

TPP01000, TPP05000, TPP0502



204-1226-xx

TPP0500B, TPP0250, P6139B, P5050B

Color Bands

016-0633-xx (5 pairs)



Adjustment Tool

003-1433-xx



Tip Cartridges

TPP1000, TPP0600

206-0610-xx (rigid tip)
206-0611-xx (pogo tip)



TPP1000 only

206-0663-xx (MMCX gold)



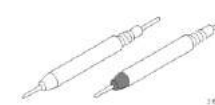
TPP0502 only

206-0666-xx (MMCX gold)



TPP0500B, TPP0250

206-0649-xx (rigid tip)
206-0650-xx (pogo tip)



TPP0502

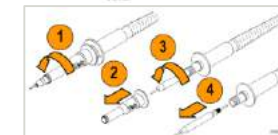
206-0641-xx (rigid tip)
206-0642-xx (pogo tip)

P6139B

206-0635-xx (rigid tip)

P5050B

206-0636-xx (rigid tip)



MMCX to Square Pin Adapters

131-9717-xx (0.1 inch - blue)
131-9677-xx (0.062 inch - white)



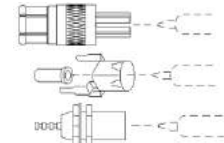
Electrical Y-Lead

196-3434-xx (square pin)
TBD (mmcx)



Rigid/Pogo Probe Tip Adapters

013-0367-xx (tip to BNC)
016-2016-xx (PCB Test Point)
131-4210-xx (Chassis-Mount TP)



MicroCKT Test Tip

206-0569-xx



DUT Interface Pin Kit

0.018 inch round solder-in pins
020-3169-xx (qty 20)



Solder-Aide for Pin Kit

Holds 0.018 inch pins 0.062 inch apart
for soldering on 0402 SMT parts



Ground Lead, 6 inch Clip-On

196-3198-xx



Ground Lead, 12 inch Alligator

196-3512-xx



Probe Tip Tripod

352-1170-xx (qty. 2)



Optional Accessories



- Tip mates directly with MMCX connector
- Shielded, low inductance connection to test points
- Secure hands-free connectivity
- Uses low-cost, industry-standard MMCX connectors
- MMCX connectors may be "backed on" and used on unplated test points



- Adapters connect to standard-pitch pins
- Two adapters available for connecting to square pins:
 - Spaced on 0.1 in. (2.54 mm) centers
 - Spaced on 0.062 in. (1.57 mm) centers
- Solder foot available for placing 0.062 in. pins



- Y-leads connect to non-standard-pitch pins
- Y-lead adapter works with the 0.1 in. adapter



- Tripod mount for added stability
- Tripod mount adds stability to square-pin mounted probes
- Tripod may be glued down to the PCB

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Active Probes – Low Voltage Single Ended



TAPX000



P6243/P6245



P7240

Low Voltage Performance Probes – Single Ended

Model	Bandwidth	Attenuation	Input Impedance	Dynamic Range	Offset Range	Maximum Non-Destruct Voltage	Interface
P7240	4 GHz	5X	20 k Ω ≤ 0.8 pF	± 2 V	± 5 V	± 30 V	TekConnect
TAP4000	4 GHz	10X	40 k Ω ≤ 0.8 pF	± 4 V	± 10 V	± 30 V	TekVPI
TAP3500	3.5 GHz	10X	40 k Ω ≤ 0.8 pF	± 4 V	± 10 V	± 30 V	TekVPI
TAP2500	2.5 GHz	10X	40 k Ω ≤ 0.8 pF	± 4 V	± 10 V	± 30 V	TekVPI
TAP1500	1.5 GHz	10X	1 M Ω ≤ 1 pF	± 8 V	± 10 V	± 25 V(DC + PkAC)	TekVPI
P6243	1 GHz	10X	1 M Ω ≤ 1 pF	± 8 V	N/A	± 15 V(DC + PkAC)	TekProbe LVL2
P6245	1.5 GHz	10X	1 M Ω ≤ 1 pF	± 8 V	± 10 V	± 15 V(DC + PkAC)	TekProbe LVL2

A low voltage single-ended probe is typically used for measuring high-speed, ground referenced signals up to 12 V. These low voltage probes are the best choice for making measurements on high impedance, high frequency circuit elements which require minimal probe loading. Users should select probes with a low input capacitance specification (~ 1 pF) to minimize the probe's loading effect on the circuit. A probe with lower input capacitance will offer higher input impedance at higher frequencies.

Tektronix Low Voltage Single-ended Probe solutions offer:

- Bandwidths up to 4 GHz.
- Very high input impedance with low input capacitance (< 1 pF)
- Most extensive set of probe accessories for optimum measurement performance

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Power Rail Probes

Model	Bandwidth	Attenuation	Input Impedance	Dynamic Range	Offset Range	Interface
TPR4000	4 GHz	1.25X	50 k Ω DC – 10 kHz, 50 Ω AC > 100 kHz	± 1 V	± 60 V	TekVPI
TPR1000	1 GHz	1.25X	50 k Ω DC – 10 kHz, 50 Ω AC > 100 kHz	± 1 V	± 60 V	TekVPI



The TPR1000 and TPR4000 probes provide a low noise, large offset range solution for measurement of ripple on DC power rails ranging from -60 to $+60$ VDC. Tektronix's power rail probes offer industry leading low noise and high offset range required to measure AC ripple between 200 μ V p-p and 800 mV p-p at up to 4 GHz.

Key Specs:

- <300 μ V p-p noise on 6 Series MSO (20 MHz BW Limit)
- <1 mV p-p noise on 6 Series MSO (Full Bandwidth)
- ± 60 V offset range
- Offset setting error: ± 2 mV max, ± 0.4 μ V typical



Passive

Active

Power Rail

Differential

Current

High Voltage

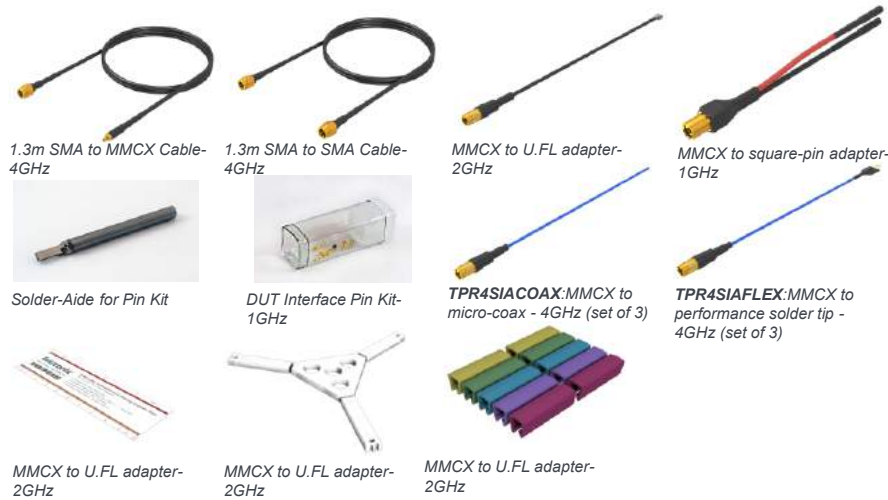
High Voltage Diff.

Isolated Diff.

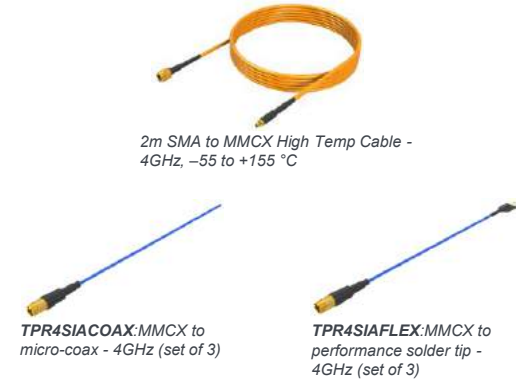
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Power Rail Probes – Accessory Kits

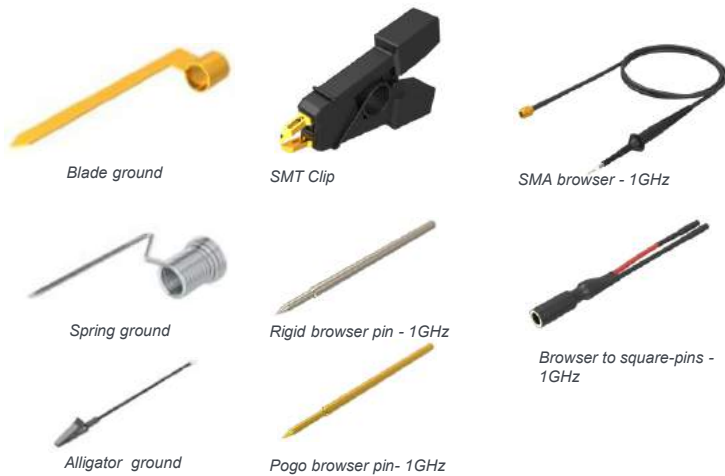
Standard Accessories (TPR4KIT Kit)



TPR4KITHT Kit



TPRBRWSR1G Kit



TPR4SIAFLEX Kit



TPR4SIACOAX Kit



Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Differential Probes – Low Voltage



P7600



P7700



P7500



TDP7700

Low Voltage Performance Probes – Differential

Model	Bandwidth	Attenuation	Input Impedance	Differential Input Voltage	Operating Window	Offset Range	Interface
P7633	33 GHz	.25X - 20X	50 Ω / 225 Ω	2V , 10V	±4 , ±5	±4	TekConnect
P7625	25 GHz	.25X - 20X	50 Ω / 225 Ω	2V , 10V	±4 , ±5	±4	TekConnect
P7720	20 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	TekConnect
P7716	16 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	TekConnect
P7713	13 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	TekConnect
P7708	8 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	TekConnect
P7520A	>20 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+3.7 to -2.0V	2.5 to -1.5V	TekConnect
P7516	16 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+4.0 to -2.0V	2.5 to -1.5V	TekConnect
P7513A	>13 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+4.0 to -2.0V	2.5 to -1.5V	TekConnect
P7508	8 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+4.0 to -2.0V	2.5 to -1.5V	TekConnect
P7506	6 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+4.0 to -2.0V	2.5 to -1.5V	TekConnect
P7504	4 GHz	5X, 12X	100kΩ	5X: ±0.625V 12.5X: ±1.6 V	+4.0 to -2.0V	2.5 to -1.5V	TekConnect
TDP7708	8 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	Flex Channel
TDP7706	6 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	Flex Channel
TDP7704	4 GHz	*****	See TekFlex Accessory Performance Table	*****	*****	*****	Flex Channel

Differential signaling used in high speed serial standards requires very accurate characterization. The industry-leading bandwidth and signal fidelity found in a Tektronix low voltage differential probe ensures that you see every possible detail. Tektronix offers TriMode™ architecture which streamlines measurement acquisition by enabling you to make differential, single-ended, and common mode measurements with a single connection!

TekFlex Accessory Table

Tekflex Accessory	Attenuation	Input Impedance	Differential Input Voltage	Operating Window	Offset Range
P775TFLXA P775TFLXB P775TCABL	4X	100kΩ 0.4 pF	5V	±5.25V	±4V
P77BRWSR	10X	150kΩ 22 pF	12V	±10V	±10V
P77C292MM	Variable	50Ω (SMA)	2V	±4V	±4V

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Differential Probes – Low Voltage Continued



TDP3500/TDP4000



TDP1500



TDP1000



TDP0500



P6247/P6248



ADA400A

Low Voltage Performance Probes – Differential

Model	Bandwidth	Attenuation	Input Impedance	Differential Input Voltage	Operating Window	Offset Range	Interface
TDP4000	≥4 GHz	5X	100 kΩ ≤ 0.3 pF	±2 V	±15 V (DC + pk AC)	±1 V	TekVPI
TDP3500	≥3.5 GHz	5X	100 kΩ ≤ 0.3 pF	±2 V	±15 V (DC + pk AC)	±1 V	TekVPI
TDP1500	≥1.5 GHz	1X, 10X	200 kΩ ≤ 1 pF	1X: ±0.85 V 10X: ±8.5 V	±25 V (DC + pk AC)	±7.0 V	TekVPI
TDP1000	1 GHz	5X / 50X	1 MΩ ≤ 1 pF	50X: ±42 V 5X: ±4.2 V	±42 V (DC + pk AC) 30 Vrms	±42 V	TekVPI
TDP0500	500 MHz	5X / 50X	1 MΩ ≤ 1 pF	50X: ±42 V 5X: ±4.2 V	±42 V (DC + pk AC) 30 Vrms	±42 V	TekVPI
P6248	>1.5 GHz	1X, 10X	200 kΩ <1 pF	1X: ±0.85 V 10X: ±8.5 V	±7.0 V	depends on scope	TekProbe LVL2
P6247	>1 GHz	1X, 10X	200 kΩ <1 pF	1X: ±0.85 V 10X: ±8.5 V	±7.0 V	depends on scope	TekProbe LVL2
ADA400A	>1 MHz	.1X - 100X	1 MΩ ~ 55 pF	.1-80V**	±10 to ±40 V**	±1 to ±40 V**	TekProbe LVL2

Differential signaling used in high speed serial standards requires very accurate characterization. The industry-leading bandwidth and signal fidelity found in a Tektronix low voltage differential probe ensures that you see every possible detail.

** Based on Gain Setting

Passive	Active	Power Rail	Differential	Current	High Voltage	High Voltage Diff.	Isolated Diff.	Optical
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Differential Probes – Low Voltage Accessories



P7500 Tips



DC Calibration Fixture
Use this fixture to calibrate your probes DC accuracy when making critical measurements.



G3PO/SMPM Bullet Removal Tool



G3PO/SMPM Bullet Replacement Kit

RF Connector Maintenance
High performance RF connectors can often be fragile. Use these accessories to perform regular maintenance checks on your high performance probe to make sure you are getting the best signal integrity.

High Temp & High Density



Damped Wire Tip
Order #: 020-2959-XX, Kit of 25
Low cost solder tip. Not TriMode™ capable. Used with the 020-2954-00 Socket Cable. Up to 8 GHz bandwidth.



TriMode™ High Temperature Tip
Order #: 020-2958-XX, Kit of 10
High temperature tip with a -55°C to 150°C range. Used with the 020-2960-XX Socket Cable XL. Up to 6 GHz bandwidth.



TriMode™ Micro-Coax Tip
Order #: 020-2955-XX, Kit of 10
Quick connect solder tip. Used with the 020-2954-XX Socket Cable. Up to 4 GHz bandwidth.

Mid-bus Probing



TriMode™ Resistor Solder Tip
Order #: 020-2936-XX, Kit of 1
High performance solder tip. Easy to solder tip resistors. Up to 18 GHz bandwidth.



TriMode™ Extended Resistor Solder Tip
Order #: 020-2944-XX, Kit of 1
Medium performance solder tip. Easy to solder extra long tip resistors. Up to 7 GHz bandwidth.



TriMode™ Long Reach Solder Tip
Order #: P75TLRST, Kit of 1
High performance solder tip. Up to 20 GHz bandwidth.



TriMode™ Performance Solder
Tip Order #: P75PST, Kit of 1
High performance solder tip. Up to 25 GHz bandwidth.

Memory Testing



TriMode™ Long Reach Solder Tip (75 Ω tip resistor)
Order #: 020-3131-XX, Kit of 1
High performance solder tip for use with memory chip interposers with embedded 100 Ω resistors. Up to 20 GHz bandwidth.



TriMode™ Long Reach Solder Tip (0 Ω tip resistor)
Order #: 020-3135-XX, Kit of 1
High performance solder tip for use with memory chip interposers with embedded 175 Ω resistors. Up to 20 GHz bandwidth.

Precision Browsing



Precision Differential Probing Module
Order #: P75PDPM High performance handheld probing module. Up to 18 GHz bandwidth.

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

10

Differential Probes – Low Voltage Accessories



P7600 Tips



DC Calibration Fixture
Use this fixture to calibrate your probes DC accuracy when making critical measurements.



G3PO/SMPM Bullet Removal Tool



G3PO/SMPM Bullet Replacement Kit

RF Connector Maintenance
High performance RF connectors can often be fragile. Use these accessories to perform regular maintenance checks on your high performance probe to make sure you are getting the best signal integrity.



P76CA-292C
33 GHz Bandwidth Coaxial Adapter with 2.92 mm (Male) connectors and 6" of high performance cable. This adapter is calibrated at the input connectors and is ideal for directly connecting to devices with 2.92 mm or SMA output connectors.



P76CA-SMP
33 GHz Bandwidth Coaxial Adapter with SMP (Female) connectors and 6" of high performance cable. This adapter is calibrated at the input connectors and is ideal for directly connecting to devices with SMP output connectors.



P76TA
30 GHz Bandwidth P7500 Tip Adapter. The probe and oscilloscope system will support up to 30 GHz of bandwidth when this adapter is used with the P75PST Performance Solder Tip.



P76CA-292
33 GHz Bandwidth Coaxial Adapter with 2.92 mm (Female) connectors. This adapter is calibrated at the input connectors and is ideal for use with off the shelf or custom cables. Low skew cable pairs should be used to preserve full bandwidth performance.

Unique probe filters

The P7600 Series probes contain probe specific S-parameter data. Attaching a P7600 probe to a MSO/DPO70000DX or DPO70000SX oscilloscope transfers this data to the instrument to create unique system DSP filters based on the specific S-parameter data of the oscilloscope and the probe. Creating unique filters based on the specific response of the system is critical as bandwidths increase. At bandwidths of 33 GHz, small variations in the signal path can lead to significant variation in frequency response. These variations are corrected using DSP filtering.



P75PST
High performance solder tip

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Differential Probes – Low Voltage Accessories



P7700 & TDP7700 TekFlex™ Accessories



DC Calibration Fixture
Order #: 067-4889-xx
Use this fixture to calibrate your probes DC accuracy when making critical measurements. For P7700 probes.



Probe Deskew Fixture
Order #: P77DESKEW
Use this fixture to time align your TekFlex probes for the best timing accuracy to make critical timing measurements.



P77BRWSR
16 GHz handheld browser accessory enables hand or fixtured probing with adjustable tip spacing. The browser's tips are adjustable in spacing using a convenient thumb wheel. A headlight on the tip enhances visibility of the probe point and can be switched on and off as needed.



The browser tips are constructed of high strength BeCu and super-ceramic resistors. Each pin has integrated pogo springs and a crown cut tip to help make solid mechanical connections to components and traces.

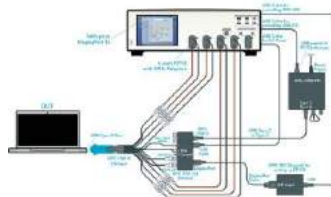


Probe Stand and wand accessories for both hands free and hands on browsing give you flexibility when you are debugging your circuit.



P77C292MM
SMA/2.92mm adapter for connecting to coaxial connectors RF/coaxial connectors, such as SMA, are often found on test fixtures or on prototype board designs. Attaching a P7700 or TDP7700 series probe to these onboard connectors is easy with the SMA adapter.

DISPLAYPORT TYPE-C TRANSMITTER TESTING SETUP



The P77C292MM adapter includes TriMode functionality enabling differential, single ended, and common mode measurements. Include variable termination voltage that can be set manually or automatically using voltage sense circuitry in the P7700 or TDP7700 probes over a range of ± 4 V for testing display technologies like HDMI and Display Port.

TekFlex connector technology

The P7700 & TDP7700 Series TriMode probes use the TekFlex connector technology that combines a high speed signal path with power and communication support for an active buffer tip in a single, easy to attach accessory connector. The TekFlex connector has a pinch-to-open design that when open requires minimal force to attach an accessory tip. When the TekFlex connector is closed, it provides a secure connection to the accessory to avoid accidental disconnections.



P77STFLXA
20GHz solder down, flex-circuit accessory with an active buffer amplifier on its tip. Each tip has a stored factory AC calibration which is de-embedded automatically on the instrument.



P77STFLXB
16GHz solder down, flex-circuit accessory provides a probing solution for DDR4 and LPDDR4 electrical validation when used with Nexus XH Series Interposers. Each tip has a stored factory AC calibration and a nominal XH series interposer response which is de-embedded automatically on the instrument.



P77STCABL
20GHz solder down accessory with a long reach, flexible cable combined with an active buffer amplifier on the tip. The long tip reach make it great for escaping tight board geometries while maintaining electrical performance.

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

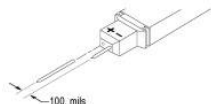
Differential Probes – Low Voltage Accessories



TDP0500, TDP1000, & TDP1500 Accessories

Straight [Pins]

Reorder: 016-1891-XX



Usable bandwidth
<1.5 GHz

Typical rise time
<350 ps

Connection type
.PCB, Vias, & ICs

MicroCKT Test Tip

Reorder: 206-0569-XX



Usable bandwidth
<100 MHz

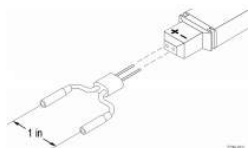
Typical rise time
<3.5 ns

Connection type
Leaded components

Use the MicroCKT test tips to access dense circuitry and IC leads spaced down to 10 mil-centers.

Y-Lead Adapter

Reorder: 196-3434-XX



Usable bandwidth
<100 MHz

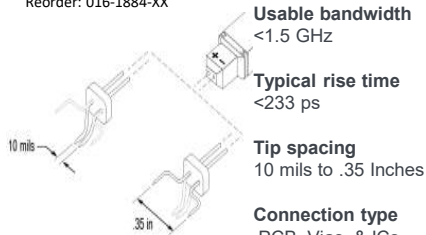
Typical rise time
<3.5 ns

Connection type
0.025" Square Pin

Use the Y-lead adapter to extend the reach of the probe and to connect to 0.025 inch square pins spaced as far as 1.5 inches apart. Use with Square pin adapter

Longhorn Adapter

Reorder: 016-1884-XX



Usable bandwidth
<1.5 GHz

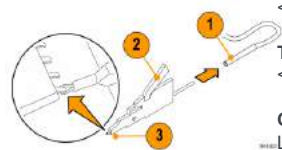
Typical rise time
<233 ps

Tip spacing
10 mils to .35 Inches

Connection type
.PCB, Vias, & ICs

IC Micro-Grabber

Reorder: SMK4



Usable bandwidth
<100 MHz

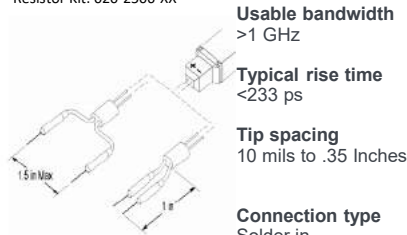
Typical rise time
<3.5 ns

Connection type
Leaded components

IC Micro-Grabber Use the IC Micro-Grabber to probe the leads on integrated circuits that are surface-mounted.

1" Solder Down Adapter

Resistor Kit: 020-2506-XX



Usable bandwidth
>1 GHz

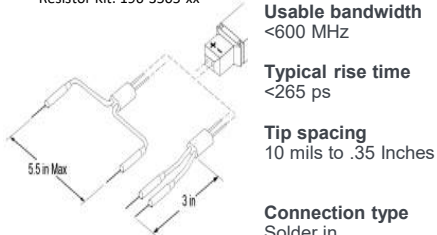
Typical rise time
<233 ps

Tip spacing
10 mils to .35 Inches

Connection type
Solder in

3" Solder Down Adapter

Resistor Kit: 196-3505-xx



Usable bandwidth
<600 MHz

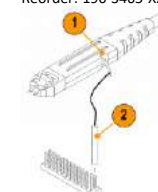
Typical rise time
<265 ps

Tip spacing
10 mils to .35 Inches

Connection type
Solder in

3" Ground Lead

Reorder: 196-3465-XX



Color Bands

Reorder: 196-3465-XX



Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

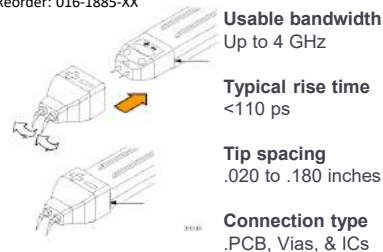
Differential Probes – Low Voltage Accessories



TDP3500, & TDP4000 Accessories

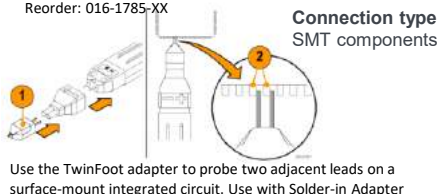
Variable Spacing Adapter

Reorder: 016-1885-XX



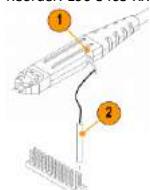
TwinFoot™ Adapter

Reorder: 016-1785-XX



3" Ground Lead

Reorder: 196-3465-XX



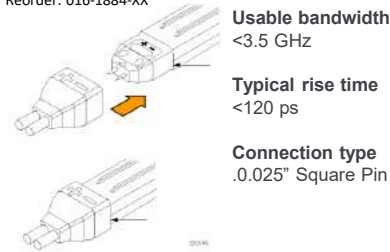
Color Bands

Reorder: 196-3465-XX



Square Pin Adapter

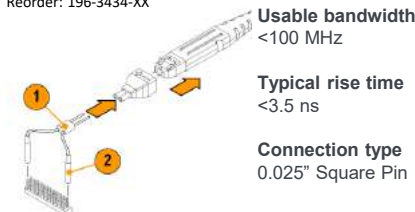
Reorder: 016-1884-XX



Use the square pin adapter to connect the probe to other accessories, such as the Y-lead adapter. The inputs on the adapter are spaced 0.100 inches apart.

Y-Lead Adapter

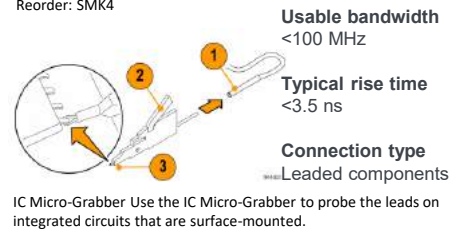
Reorder: 196-3434-XX



Use the Y-lead adapter to extend the reach of the probe and to connect to 0.025 inch square pins spaced as far as 1.5 inches apart. Use with Square pin adapter

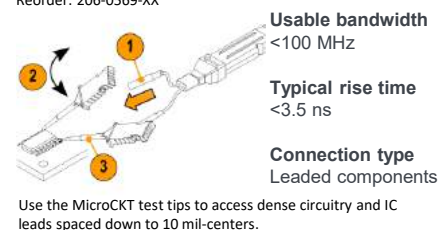
IC Micro-Grabber

Reorder: SMK4



MicroCKT Test Tip

Reorder: 206-0569-XX

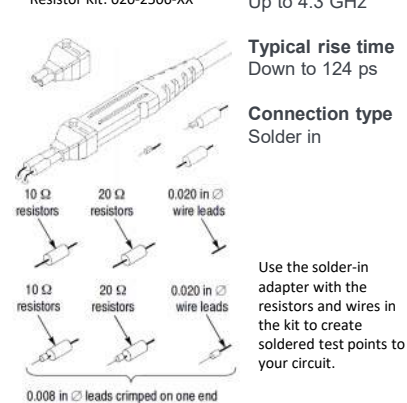


Solder in Adapter + Resistor Kit

Solder in Kit: 020-2505-XX

Solder in adapter: 016-1296-XX

Resistor Kit: 020-2506-XX



Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Current Probes

Tektronix current probe solutions offer:

- The broadest range of AC/DC and AC-only current probes
- Measurement accuracy from μA s to 2000 A
- Best-in-class bandwidth up to 120 MHz
- Best-in-class current clamp sensitivity down to 1 mA
- The only products with 3rd Party Safety Certification (UL, CSA, ETL)
- The only products with bare wire voltage ratings
- Automatic readout and scaling when used with Tektronix oscilloscopes so you don't have to convert volts to amps or manually set the scaling

Current Probes – DC/AC

Model	Maximum Current	Minimum Current*	Bandwidth	Rise Time	Interface
TCPA300	Current Probe Amplifier				TekProbe LVL 2
TCP312A	30 A DC; 21.2 A_{RMS} ; 50 A peak	1 mA	DC - 100 MHz	≤ 3.5 ns	Amplifier
TCP305A	50 A DC; 35.4 A_{RMS} ; 50 A peak	5 mA	DC - 50 MHz	≤ 7 ns	Amplifier
TCP303	150 A DC; 150 A_{RMS} ; 500 A peak	5 mA	DC - 15 MHz	≤ 23 ns	Amplifier
TCPA400	Current Probe Amplifier				TekProbe LVL 2
TCP404XL	500 A DC; 500 A_{RMS} ; 750 A peak	1 A	DC - 2 MHz	≤ 175 ns	Amplifier
TCP0030A	30 A DC; 30 A_{RMS} ; 50 A peak	1 mA	DC - 120 MHz	≤ 2.92 ns	TekVPI
TCP0020	20 A DC; 20 A_{RMS} ; 100 A peak	10 mA	DC - 50 MHz	≤ 7 ns	TekVPI
TCP2020	20 A DC; 20 A_{RMS} ; 100 A peak	10 mA	DC - 50 MHz	≤ 7 ns	BNC
TCP202A	15 A DC; 15 A_{RMS} ; 50 A peak	10 mA	DC - 50 MHz	≤ 7 ns	TekProbe LVL 2
TCP0150	150 A DC; 150 A_{RMS} ; 500 A peak	5 mA	DC - 20 MHz	≤ 17.5 ns	TekVPI
A622	100 A DC; 70.7 A_{RMS} ; 100 A peak		DC - 100 kHz	≤ 3.5 μs	BNC

* winding the conductor multiple times through the current probe jaws increases the sensitivity



TCP0030A



TCPA300



TCP312A



TCP303

Passive	Active	Power Rail	Differential	Current	High Voltage	High Voltage Diff.	Isolated Diff.	Optical
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Current Probes



P6021A



A622



TRCP3000



CT1



CT6



A621

Current Probes – AC only

Model	Maximum Current	Minimum Current	Sensitivity*	Bandwidth	Interface
P6021A	10.6 A_{RMS} ; 250 A peak		2 mA/mV, 10 mA/mV	120 Hz - 60 MHz	TekProbe
P6022	4 A_{RMS} ; 100 A peak		1 mA/mV, 10 mA/mV	935 Hz - 120 MHz	BNC
TRCP3000	3000 A peak	500 mA	2 mV/A	1 Hz - 16 MHz	BNC
TRCP0600	600 A peak	500 mA	10 mV/A	12 Hz - 30 MHz	BNC
TRCP0300	300 A peak	250 mA	20 mV/A	9 Hz - 30 MHz	BNC
CT1	450 mA A_{RMS} ; 12 A peak		5 mV/mA	25 kHz – 1 GHz	BNC
CT2	2.5 A_{RMS} ; 36 A peak		1 mV/mA	1.2 kHz – 200 MHz	BNC
CT6	120 mA A_{RMS} ; 6 A peak		5 mV/mA	250 kHz – 2 GHz	BNC

* winding the conductor multiple times through the current probe increases the sensitivity

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

High Voltage Probes – Single Ended



P6150A



P5100A



TPP0850

High Voltage Probes – Single Ended

Model	Bandwidth	Max Voltage	Attenuation	Input Impedance	Compensation Range	Interface
P5100A	500 MHz	1000 V_{RMS} (CAT II) 2.5 kV peak	100X	40 M Ω 2.5 pF	7 pF – 30 pF	TekProbe LEVEL 1
P6015A	75 MHz	20 kV_{RMS} 40 kV peak	1000X	100 M Ω ≤ 3 pF	7 pF – 49 pF	TekProbe L1 or BNC
P5122	200 MHz	1000 V_{RMS} (CAT II)	100X	100 M Ω 4.6 pF	10 pF – 25 pF	BNC
P5150	500 MHz	1000 V_{RMS} (CAT II) 2.5 kV peak	50X	40 M Ω 3.8 pF	10 pF – 25 pF	BNC
TPP0850	800 MHz	1000 V_{RMS} (CAT II) 2.5 kV peak	50X	40 M Ω 1.8 pF	Auto compensated by scope	TekVPI

A high voltage single-ended probe is typically used for measuring ground referenced signals up to 40 kV. However, some single-ended probes are designed for instruments with isolated or floating inputs for measurements that are not ground referenced. Users should select probes with a low input capacitance specification (< 4 pF) to minimize the probe's loading effect on the circuit because a probe with lower input capacitance will offer higher input impedance at higher frequencies.

Tektronix High Voltage Probe solutions offer:

- Best-in-class bandwidth up to 800 MHz
- Best-in-class probe loading with input capacitance as low as 1.8 pF
- The only products with 3rd Party Safety Certification (UL, CSA, ETL)
- Most extensive set of probe accessories

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Differential Probes – High Voltage

High Voltage Differential Probes

A high voltage differential probe is used for measuring the voltage difference between two test points where neither test point is at ground. High voltage differential probes from Tektronix can be used for signals up to 6000 V. These probes are the best choice for making non-ground referenced, floating or isolated measurements in large part due to their common mode rejection capability. These products are designed, manufactured, and serviced by Tektronix.

Tektronix High Voltage Differential Probe solutions offer:

- Best-in-class bandwidth and probe loading
- The only products with 3rd Party Safety Certification (UL, CSA, ETL)
- High and medium voltage products to support varying dynamic range and measurement resolution requirements
- Most extensive set of probe accessories



THDP0200/TMDP0200



THDP0100



P5202A/P5205A



P5210A



P5200A

Model	Bandwidth	Rise Time	Attenuation	Maximum Differential Voltage	Maximum Voltage to Earth Ground	Differential Input Capacitance	Single Ended Input capacitance	Differential Input Resistance	Single Ended Input Resistance	Cable Length (T _{propagation})	Interface
P5200A	50MHz	7.8ns	50:1 / 500:1	±1300V	1000Vrms (CAT II)	2pF	4pF	10MΩ	5MΩ	1.5m (21ns)	BNC (1MΩ)
P5202A	100MHz	3.8ns	20:1 / 200:1	±640V	300Vrms (CAT II)	2pF	4pF	5MΩ	2.5MΩ	1.5m (21ns)	TekProbe LVL 2 (1MΩ)
P5205A	100MHz	3.8ns	50:1 / 500:1	±1300V	1000Vrms (CAT II)	2pF	4pF	10MΩ	5MΩ	1.5m (21ns)	TekProbe LVL 2 (1MΩ)
P5210A	50MHz	7.8ns	100:1 / 1000:1	±5600V	2300Vrms (CAT I)	2.5pF	5pF	40MΩ	20MΩ	1.5m (21ns)	TekProbe LVL 2 (1MΩ)
TMDP0200	200MHz	1.8ns	25:1 / 250:1	±750V	550Vrms (CAT I)	2pF	4pF	5MΩ	2.5MΩ	1.5m (21ns)	VPI (1MΩ)
THDP0200	200MHz	1.8ns	50:1 / 500:1	±1500V	1000Vrms (CAT II)	2pF	4pF	10MΩ	5MΩ	1.5m (21ns)	VPI (1MΩ)
THDP0100	100MHz	3.5ns	100:1 / 1000:1	±6000V	2300Vrms (CAT I)	2.5pF	5pF	40MΩ	20MΩ	1.5m (21ns)	VPI (1MΩ)

Passive

Active

Power Rail

Differential

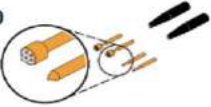
Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

Accessory	Description	P5205A	P5200A/ P5205A	THDP0100/ P5210A	TMDP0200	THDP0200
196-3523-00 	Extension lead(1.5m) x2	450Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD	2300Vrms CAT I 1000Vrms CAT III STANDARD	550Vrms CAT I 300Vrms CAT III STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
AC280-FL 	Hook Clip x2	450Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD	1000Vrms CAT I 1000Vrms CAT III OPTIONAL	550Vrms CAT I 300Vrms CAT III STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
AC283-FL 	Micro Grabber Tip x2	450Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD	1000Vrms CAT I 1000Vrms CAT III OPTIONAL	550Vrms CAT I 300Vrms CAT III STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
AC285-FL 	Alligator clip(large) x2	450Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD	1000Vrms CAT I 1000Vrms CAT III OPTIONAL	550Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
TP175-FL 	Probe leads x2	450Vrms CAT I 300Vrms CAT II OPTIONAL	1000Vrms CAT II 600Vrms CAT III OPTIONAL	1000Vrms CAT I 1000Vrms CAT III OPTIONAL	550Vrms CAT I 300Vrms CAT III STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
020-3070-02 	Hook Clip Kit	450Vrms CAT I 300Vrms CAT II OPTIONAL	1000Vrms CAT II 600Vrms CAT III OPTIONAL	2300Vrms CAT I* 1000Vrms CAT III STANDARD	550Vrms CAT I 300Vrms CAT II STANDARD	1000Vrms CAT II 600Vrms CAT III STANDARD
020-3107-00 	Pogo pi adapter kit x2	150Vrms CAT II OPTIONAL	150Vrms CAT II OPTIONAL	150Vrms CAT II OPTIONAL	150Vrms CAT II STANDARD	150Vrms CAT II STANDARD
012-1724-00 	Test probe extension (fine point) adapter x2	300Vrms CAT I 300Vrms CAT II OPTIONAL	300Vrms CAT II OPTIONAL	300Vrms CAT I 300Vrms CAT II OPTIONAL	300Vrms CAT I 300Vrms CAT II STANDARD	300Vrms CAT II STANDARD
344-0670-00 	Alligator clip(small) x2	450Vrms CAT I 300Vrms CAT II OPTIONAL	1000Vrms CAT II 600Vrms CAT III OPTIONAL	THDP010: 300Vrms CAT I P5210A: 1000Vrms CAT I 1000Vrms CAT III OPTIONAL	300Vrms CAT I STANDARD	300Vrms CAT I STANDARD
Passive Active Power Rail Differential Current High Voltage High Voltage Diff. Isolated Diff. Optical						

IsoVu® Differential Isolated Measurement System

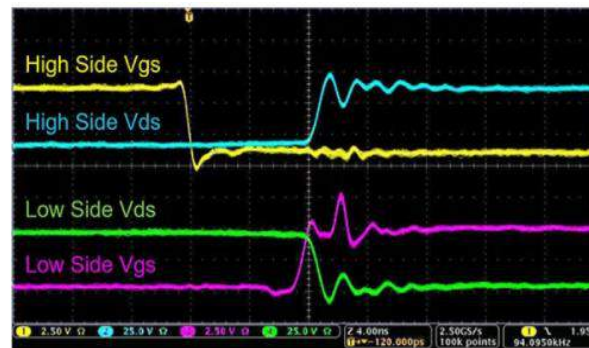


Model	Bandwidth	Rise Time	Cable Length	Maximum Differential Input Voltage	Maximum Offset range	Maximum Common Mode Voltage to Earth	Interface
TIVH08	800MHz	435ps	3m	±2500V**	±2500V**	60kV	VPI
TIVH08L	800MHz	435ps	10m	±2500V**	±2500V**	60kV	VPI
TIVH05	500MHz	700ps	3m	±2500V**	±2500V**	60kV	VPI
TIVH05L	500MHz	700ps	10m	±2500V**	±2500V**	60kV	VPI
TIVH02	200MHz	1.8ns	3m	±2500V**	±2500V**	60kV	VPI
TIVH02L	200MHz	1.8ns	10m	±2500V**	±2500V**	60kV	VPI
TIVM1	1GHz	350ps	3m	±50V*	±100V*	60kV	VPI
TIVM1L	1GHz	350ps	10m	±50V*	±100V*	60kV	VPI

* IVTIP50

** WSPIN2500X

IsoVu® probes are the right tool for today's demanding power measurement challenges given their industry leading 1 GHz bandwidth, 160 dB or 100 Million to 1 common mode rejection, 60 kV common mode voltage, large ± 2500 V differential range and superior probe loading.



Optimize for Performance and Efficiency

The benefits of a power design can only be realized when the switching circuit, the gate drive circuit, and the layout, are all properly designed and optimized. IsoVu can be used to:

- Characterize the gate drivers, Vgs, Vds, and Is
- Characterize the time alignment of high and low side events
- Optimize and tune the switching characteristics

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

IsoVu® Differential Isolated Measurement System

TIVM Tip Model	Attenuation	Differential Voltage		Offset Range	Input Impedance	Max Non-Destruct Voltage		CMRR					Standard Attachment
		1X	2X			Vpk(DC+ AC)	Vrms	DC~1MHz	100MHz	200MHz	500MHz	1GHz	
SMA Input	1:1	±0.5V	±1V	±2V	50Ω	4.3Vpk	3Vrms	-	-	-	-	-	o
MMCX TIPS													
IVTIP1X	1:1	±0.5V	±1V	±2V	50Ω	4.3Vpk	3Vrms	160dB	120dB	110dB	100dB	90dB	-
IVTIP5X	5:1	±2.5V	±5V	±10V	250Ω <1pf	21.5Vpk	12Vrms	160dB	120dB	110dB	100dB	90dB	o
IVTIP10X	10:1	±5V	±10V	±20V	500Ω <1pf	43Vpk	16Vrms	160dB	120dB	110dB	100dB	90dB	-
IVTIP25X	25:1	±12.5V	±25V	±50V	1.25kΩ <1pf	107.5Vpk	25Vrms	160dB	110dB	100dB	100dB	90dB	o
IVTIP50X	50:1	±25V	±50V	±100V	2.5kΩ <1pf	200Vpk	35Vrms	160dB	100dB	90dB	90dB	80dB	-
Sq-Pin Adapters													
MMCX 0.1 inch square pin								160dB	70dB	60dB	40dB	30dB	o
MMCX 0.062 inch square pin								160dB	70dB	60dB	40dB	30dB	o

TIVH Tip Model	Attenuation	Differential Voltage		Offset Range	Input Impedance	Max Non-Destruct Voltage	CMRR					Standard Attachment	
		1X	2X				Vpk(DC+ AC)	DC~1MHz	100MHz	200MHz	500MHz		1GHz
SMA Input	1:1	±0.5V	±1V	±25V	1MΩ 20pf	25Vpk	-	-	-	-	-	o	
MMCX TIPS													
MMCX10X	10:1	±5V	±10V	±250V	10MΩ 6pf	250Vpk	160dB	100dB	100dB	80dB	70dB	-	
MMCX50X	50:1	±25V	±5V	±250V	10MΩ 3pf	250Vpk	160dB	100dB	100dB	80dB	70dB	o	
MMCX250X	250:1	±125V	±250V	±250V	10MΩ 2pf	250Vpk	160dB	100dB	100dB	80dB	70dB	-	
0.1 inch Sq-Pin Tips													
SQPIN100X	100:1	±50V	±100V	±600V	10MΩ 3.5pf	600Vpk	160dB	70dB	60dB	40dB	30dB	-	
SQPIN500X	500:1	±250V	±500V	±600V	10MΩ 3.5pf	600Vpk	160dB	70dB	60dB	40dB	30dB	o	
0.2 inch Sq-Pin Tips													
WSQPIN1000X	1000:1	±500V	±1000V	±2500V	40MΩ 3.5pf	2500Vpk	160dB	70dB	60dB	40dB	30dB	-	
WSQPIN2500X	2500:1	±1250V	±2500V	±2500V	40MΩ 3.5pf	2500Vpk	160dB	70dB	60dB	40dB	30dB	-	
Sq-Pin Adapters													
MMCX 0.1 inch square pin							160dB	70dB	60dB	40dB	30dB	o	
MMCX 0.062 inch square pin							160dB	70dB	60dB	40dB	30dB	-	

Passive

Active

Power Rail

Differential

Current

High Voltage

High Voltage Diff.

Isolated Diff.

Optical

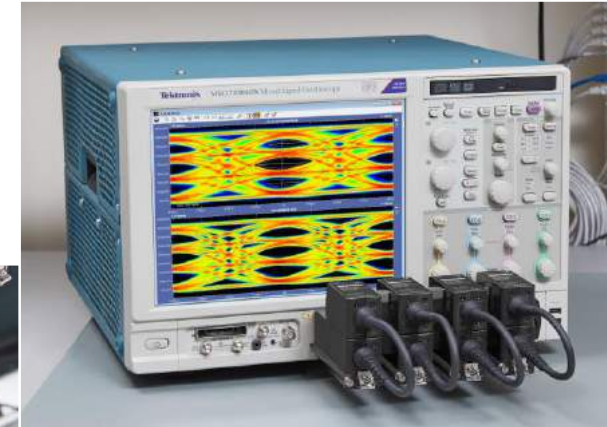
Optical Probes

The **DPO70E Series Optical Probes** paired with a DPO70000 real time oscilloscope delivers high performance and advanced debug capabilities that are necessary for designers to fully troubleshoot 400G PAM4 signals (up to 56 Gb/s) and reduce time to market needs. These probes can also be used as a conventional O/E with a flat frequency response for general signal acquisition up to their respective bandwidth; 33 GHz using the DPO70E1 or 59 GHz using the DPO70E2.

- Versatile and modular design for use with multiple high performance real time oscilloscope models
- Broad wavelength range with FC/PC and FC/APC connector options
- Deep optical PAM4 and PAM2 (NRZ) signal analysis and error detection
- User selectable Optical Reference Receivers (ORR)



DPO70E Series Optical probes using the TekConnect channel on a MSO73304DX Oscilloscope



DPO70E Series Optical probes utilizing the ATI channel on the 70 GHz DPO70000SX Series Oscilloscope

High Bandwidth Optical Probes

Model	Electrical Bandwidth (-3 dB)	Wavelength Range Opt. FC/PC	Input Fiber	Oscilloscope Interface	Rise Time (10% to 90%)	Optical Noise	Maximum Input Power (Linear Response)
DPO70E1	33 GHz	750 nm to 1650 nm Calibrated at 850 nm, 1310 nm, 1550 nm	FC/PC: 50 µm SMF and MMF compatible FC/APC: 9 µm SMF compatible	ATI (1.85 mm RF connector) and TekConnect	10.2 ps, typical	6.6 µW rms (TekConnect / ATI)	4 mW, typical
DPO70E2	59 GHz	1200 nm to 1650 nm Calibrated at 1310 nm, 1550 nm	FC/PC: 9 µm SMF compatible FC/APC: 9 µm SMF compatible	ATI (1.85 mm RF connector) and TekConnect	7.5 ps, typical	10 µW rms (ATI)	2 mW, typical

Passive	Active	Power Rail	Differential	Current	High Voltage	High Voltage Diff.	Isolated Diff.	Optical
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Operating High Temperature Ratings

Passive Probes (TPP1000, TPP0500B, TPP0250)



Operating: -15 °C to +65 °C
Nonoperating: -62 °C to +85 °C

Power-Rail Probes (TPR4000, TPR1000)



Probe body: 0 to +55 °C
Standard accessories: -40 to +125 °C
High-temp accessories: -55 to +155 °C

Isolated Differential Probes (IsoVu)



Controller: 0 to +40 °C
Sensor head: -40 to +70 °C
Sensor tip cables/adapters: -40 °C to 85 °C

Low Voltage Differential Probes (P7708, P7713, P7716, P7720)



Compensation box and browser: 0 °C to +55 °C
Cable and solder-in tips: -35 °C to +85 °C
SMA adapter: -35 °C to +85 °C

Low Voltage Differential Probes (TDP7704, TDP7706, TDP7708)



Compensation box and browser: 0 °C to +55 °C
Cable and solder-in tips: -35 °C to +85 °C
SMA adapter: -35 °C to +85 °C

Low Voltage Differential Probes (P7504, P7506, P7508, P7513A, P7516, P7520A)



Probe body: 0 to +40 °C
TriMode High-temp Tip: -55 to +150 °C