

Specifications

The characteristics listed in Table 2 apply to a P6139A probe installed on a Tektronix TDS3054 oscilloscope unless otherwise noted.

Specifications apply when the instrument warms up for a period of at least 20 minutes in an environment that does not exceed the limits described in Table 3 on page 4.

Table 2: Electrical characteristics

Characteristic	Description
Attenuation ¹	10X ±0.5% at DC
Input Resistance ¹	10 MΩ ±0.5%
Input Capacitance	8.0 pF (±0.8 pF)
Compensation Range	8 pF to 18 pF
System Bandwidth (-3 dB)	500 MHz (TDS3054) or TDS500 series 100 MHz (TDS3012)
Maximum Input Voltage ^{2,3}	400 V RMS CAT I or 400 V DC CAT I 300 V RMS CAT II or 300 V DC CAT II 150 V RMS CAT III or 150 V DC CAT III 590 V peak, <50% DF, <1 sec PW 930 V peak, <20% DF, <1 sec PW 1250 V peak, <10% DF, <50 μsec PW See Figure 4 for voltage derating curve.

¹ System characteristic.

² As defined in EN61010-1. See Certifications and compliances in Table 4.

³ RMS=Root Mean Square=rms=The square root of the average of the sum of the squares of the instantaneous voltage in one cycle = $\sqrt{\sum (fx_i)^2 / n}$.
300 VDC=300V RMS, 420 V Peak (sinewave)=300 V RMS See Figure 2.



P6137.

This family of oscilloscope probes sets the standard for high performance passive voltage probes. Continued growth of the family paces the new series of Tektronix high-performance benchtop oscilloscopes, the

TDS400/500/600/700/3000B/5000/7000B Series high-performance portable oscilloscopes.

These probes feature modular construction, HYBRID/SMT circuitry, a smaller probe head/cable assembly than traditional passive probes, 10X attenuation readout encoding, and a full complement of attachment accessories. Smaller probe tips and lightweight cable assemblies allow easy negotiation of dense circuitry or tight spaces.

The compact probe head/tip assembly is compatible with the full line of compact accessories. When the Subminiature/Compact-to-Miniature probe tip adapter (013-0202-03) is installed over the probe head/tip, the P5050, P6138A, and P6139A probes are fully compatible with all miniature tip accessories.

The NEW P5050 probe is designed to provide 500 MHz bandwidth at the probe tip for the TDS5000 Series oscilloscopes. The P6139A probe has been designed to meet the signal path requirements of the TDS500/600/700/3000B/7000B Series of oscilloscopes. Similarly, the P6138A's design meets the TDS400 Series signal path requirements, helping to ensure the highest accuracy ever in a general-purpose oscilloscope.

Characteristics

Type	Cable Length in Meters	Bandwidth MHz	Atten.	Comp. Range pF	Input C pF	System Input Resistance MΩ	Input Voltage	Readout ID/Ground Ref.	Scope/Product Compatibility
P6131	1.3	300	10X	14 to 18	10.8	10	150 V _{RMS} CATII	Y/N/N	2400 Series (2445, 2465)
P6133	2	150	10X	10 to 25	12.7	10	150 V _{RMS} CATII	Y/N/N	2400 Series (2430/A/M, 2445A, 2445B)
P6136	1.3	350	10X	12 to 18	10.8	10	150 V _{RMS} CATII	Y/N/N	2400 Series (2431L, 2439, 2455 A/B, 2465A, 2467)
P6137	1.5	400	10X	12 to 18	10.8	10	400 VDC + pkAC	Y/N/N	2400 Series (2432/A/M, 2440/MU, 2445B, 2465B, 2467B/HD)
P6138A	1.3	400	10X	12 to 18	10	10	300 V _{RMS} CATII	Y/N/N	TDS400 Series
P6139A	1.3	500	10X	8 to 12	8	10	300 V _{RMS} CATII	Y/N/N	TDS500, 600, 700, 7000B and 3000B Series
P5050	1.3	500	10X	16 to 22	11.1	10	300 V _{RMS} CATII	Y/N/N	TDS5000 Series

NOTE: Maximum voltage DC + peak AC ≤ 500.