TekVPI™ Deskew Pulse Generator Signal Source

TEK-DPG Datasheet



Features & Benefits

- An Easy-to-use, Plug-on Accessory for Oscilloscopes That Feature the TekVPI Interface
- Generates Source Signals to Enable Precise Deskew Between Current and Voltage Probes in Power Measurement Applications
- LED Status Indicator for Quick Identification of Generator State
- Multiple Output Signals Enable Use with a Variety of Oscilloscopes and Probes
- Output can be Turned Off to Reduce Power Consumption when Not in Use
- Easy Access to Oscilloscope Menu Display to Control Settings from the Oscilloscope Front Panel

Applications

- Power Supply Design
- Measurements Requiring Accurate Timing Measurements Between Channels

TEK-DPG Deskew Pulse Generator

The TEK-DPG Deskew Pulse Generator is a signal-generating accessory for Tektronix instruments that feature the TekVPI™ interface, including DPO3000 Series and DPO/MSO4000 Series oscilloscopes.

The TEK-DPG generator provides a source signal to the Power Measurement Deskew Fixture (Tektronix part number 067-1686-xx), used to deskew popular Tektronix probes. The generator and deskew fixture allow you to precisely deskew the time differences between instrument channels of current and voltage probes, necessary when you are using the probes in power measurement applications.

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Characteristics

Mode	Amplitude	Frequency	Rise Time
	(all values are Typical)		
Mode 1	1 V_{p-p} (-1 V..0 V)	1 kHz	0.8 ns
Mode 2	2 V_{p-p} (-2 V..0 V)	1 kHz	1.6 ns
Mode 3	2 V_{p-p} (-1 V..+1 V)	1 MHz	2 ns
Mode 4	8 V_{p-p} (-4 V..+4 V)	1 MHz	4 ns

Terminates Into – 50 Ω

Expected Load – 50 Ω

Status LED Values

Status LED Color	Description
Amber	The generator is powered and the output at the BNC cable *is not* enabled. This is the default status at power-on
Green	The generator is powered and the output at the BNC cable *is* enabled
Red	A fault condition may have occurred. Disconnect and reconnect the generator to clear the fault condition

Recommended Output Mode

The recommended output mode is determined by the combination of oscilloscope model, voltage probe, and current probe, according to the following table. See the user instructions for the Power Measurement Deskew Fixture, Tektronix part number 067-1686-xx, for deskew fixture operation.

Probe*1	Operation	TEK-DPG Output Mode*2	067-1686-xx Input Port
Passive Voltage Probes			
P6139A, P5050, and Other 10x Passive Probes	Compensate timing with respect to current probes	DPO3000: Mode 2 DPO/MSO4000: Mode 1	A or B, depending on current probe type
Active Voltage Probes			
TAP1500, TAP2500, TAP3500 TDP0500, TDP1000, TDP1500 P6243, P6245, P6246, P6247, P6248, P6250, P6251	Compensate timing with respect to current probes	DPO3000: Mode 2 DPO/MSO4000: Mode 1	A or B, depending on current probe type
High-voltage Probes			
P5200, P5205, P5210 P6135A	Compensate timing with respect to current probes	DPO3000: Mode 2 or 4*3 DPO/MSO4000 : Mode 1 or 4*3	A or B, depending on current probe type
Small Current Probes			
TCP0030 TCP202, TCP312, TCP305 A6302, A6312	Compensate timing with respect to voltage probes	DPO3000: Mode 2 or 4*3 DPO/MSO4000: Mode 1 or 4*3	A
Large Current Probes			
TCP0150 TCP303 A6303	Compensate timing with respect to voltage probes	DPO3000: Mode 4 DPO/MSO4000: Mode 4	B

*1 Note that some probe models listed do not utilize the TekVPI interface. Probes which use the TekProbe-BNC interface require the TPA-BNC adapter to connect to a TekVPI oscilloscope.

*2 TEK-DPG is not supported by the DPO7000 Series. The Probe Calibration output from the DPO7000 Series generates the appropriate source signal for the Power Measurement Deskew Fixture.

*3 Mode 4 is a universal mode for high attenuation probes. High-voltage probes and current probes can always use Mode 4.

Physical Characteristics

Dimensions	cm	in.
Height	3.048	1.20
Width	4.064	1.60
Length	11.73	4.62
Cable Length	41.225	16.2
Weight	**kg**	**lb.**
Shipping	0.325	0.7175

Power Requirements

- TEK-DPG is powered directly from DPO3000, DPO/MSO4000, and DPO7000 Series Oscilloscopes, using the TekVPI probe interface.

Environmental

Characteristic	Description
Temperature	
Operating	0 °C to +50 °C
Nonoperating	-40 °C to +71 °C
Humidity	
Operating	5% to 90% relative humidity (% RH) at up to +40 °C 5% to 60% RH above +40 °C up to +50 °C, noncondensing
Nonoperating	5% to 90% RH (relative humidity) at up to +40 °C 5% to 60% RH above +40 °C up to +50 °C, noncondensing
Altitude	
Operating	Up to 3000 meters (9,843 feet)
Nonoperating	Up to 12,000 meters (39,370 feet)
Regulatory	
Emissions Compliance	EN 55011, Class A
EMC Compliance	EN61326, Class A
Compliance Labeling	WEEE (European Union)

Standard Warranty

One-year parts and labor.

Recommended Oscilloscopes

- DPO3000 and DPO/MSO4000 Series Oscilloscopes with TekVPI probe interface.
- TEK-DPG is not supported by the DPO7000 Series Oscilloscopes, as these models provide the appropriate source signal at the Probe Calibration output on the front-panel BNC connector.

Ordering Information

TEK-DPG

TEK-DPG Deskew Pulse Generator Signal Source
Includes: User manual (071-2341-xx).

Recommended Accessories
Tektronix Power Deskew/Calibration Fixture – (067-1686-xx).

Service Options

Option	Description
R3	Repair Service 3 Years
R5	Repair Service 5 Years
SILV600	Standard Warranty Extended to 5 Years
Additional Service Products Available During Warranty (DW) or Post Warranty (PW)	
TEK-DPG-R1PW	Repair service coverage 1-year post warranty
TEK-DPG-R2PW	Repair service coverage 2-year post warranty
TEK-DPG-R3DW	Repair service coverage 3 years (includes product warranty period). 3-year period starts at time of customer instrument purchase
TEK-DPG-R5DW	Repair service coverage 5 years (includes product warranty period). 5-year period starts at time of customer instrument purchase

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Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit **www.tektronix.com**

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