

Test & Measurement Components

Component Selection Guide

Amplifiers & Drivers

www.tek.com/components/amplifiers-and-drivers

Model	Bandwidth	Gain	Output Voltage	Power Dissipation	Polarity
PSPL5828A	14 GHz	10 dB	2.5 Vp-p	0.7 W	Inverting
PSPL5840B	13.5 GHz	21 dB	2.5 Vp-p	1.3 W	Non-inverting
PSPL5865	12.5 Gb/s	26 dB	7.5 Vp-p	2.3 W	Non-inverting
PSPL5866	10 GHz	26 dB	4.0 Vp-p Linear	1.7 W	Non-inverting
PSPL5867	15 GHz	15 dB	3.0 Vp-p	1.0 W	Inverting
PSPL5868	10.7 Gb/s	28.5 dB	11 Vp-p	3 W	Non-inverting
PSPL5882	35 GHz	16 dB	2.7 Vp-p	1.3 W	Non-inverting
PSPL8001	12.5 Gb/s	26 dB	7.5 Vp-p	N/A	Non-inverting
PSPL8003	15 GHz	15 dB	3.0 Vp-p	N/A	Inverting

Tektronix amplifiers and drivers are designed to provide the best possible time domain response and are ideal for applications requiring broadband frequency response and high speed performance.

The selection provides a complete line of amplifiers including a 12.5 Gb/s lithium niobate driver amplifier and a series of broadband linear amplifiers with bandwidths up to 45 GHz.

Baluns & Transformers

<http://www.tek.com/components/baluns-and-transformers>

Model	Name	Low Freq. -3 dB	High Freq. -3 dB	Rise Time
PSPL5100	Inverting Transformer	200 kHz	>20 GHz	15 ps
PSPL5310R	Phase-Matched Balun	4 MHz	6.5 GHz	54 ps
PSPL5315	Balun	200 kHz	17 GHz	21 ps
PSPL5320B	Balun	5 kHz	11 GHz	31 ps

Tektronix offers a variety of inverting transformers and differential pulse splitters (baluns). These baluns transform an unbalanced 50 ohm input into a balanced 100 ohm differential output, and are made of passive components and are therefore bi-directional. Tektronix baluns are an effective means for using single-ended test equipment (VNA's, pattern generators) for taking differential measurements.

DC Blocks

www.tek.com/components/dc-blocks

Model	Bandwidth	Rise Time	Low Freq. -3 dB	Capacitance	Max DC Voltage
PSPL5500A	>26 GHz	10 ps	80 kHz	0.02 uF	50 V
PSPL5501A	>26 GHz	10 ps	7 kHz	0.22 uF	50 V
PSPL5508	>26 GHz	<8 ps	0.7 kHz	2.2 uF	16 V
PSPL5509	50 GHz	5 ps	7 kHz, 3 MHz	0.22 uF, 500 PF	16 V, 50 V

Tektronix DC blocks are high performance ultra-broadband components used for isolating DC voltages while allowing data signals to pass through unaffected.

The PSPL5500 Series of DC Blocks are extremely broadband coaxial blocking capacitors. Due to the coaxial construction, excellent microwave performance and transient response is achieved. Large capacitance values provide low frequency response down to the kHz range.

Bias Tees

www.tek.com/components/bias-tees

	Bandwidth	Rise Time	Low Freq. -3 dB	Max DC Voltage	Max DC Current
PSPL5530B		35 ps	20 KHz	200 V	10 mA
PSPL5531	10 GHz	35 ps	750 KHz	1.5 KV	20 mA
PSPL5541A	>26 GHz	8 ps	80 kHz	50 V	100 mA
PSPL5542	50 GHz	7 ps	10 kHz	16 V	100 mA
PSPL5542K	40 GHz	7 ps	12 KHz	16 V	100 mA
PSPL5543	50 GHz	7 ps	20 kHz	100 V	500 mA
PSPL5544	40 GHz	8 ps	50 kHz	100 V	2 A
PSPL5545	20 GHz	12 ps	65 kHz	50 V	500 mA
PSPL5546	7 GHz	45 ps	3.5 KHz	50 V	500 mA
PSPL5547	15 GHz	23 ps	5 kHz	50 V	500 mA
PSPL5550B	18 GHz	20 ps	100 kHz	50 V	500 mA
PSPL5575A	12 GHz	30 ps	10 kHz	50 V	500 mA
PSPL5580	15 GHz	28 ps	10 kHz	50 V	2 Amps
PSPL5585	18 GHz	N/A	2 GHz	100 V	6 Amps
PSPL5587	2 GHz	N/A	200 MHz	100 V	6 Amps
PSPL5589	2.8 GHz	N/A	300 MHz	100 V	7.0 Amps

Tektronix bias tees are used to supply an active device like an amplifier, laser diode, photodiode, or optical modulator with a bias current or bias voltage while allowing high speed, ultra-broadband signals to pass through with minimum signal degradation.

These bias tees have low insertion loss, very broad frequency response, and exceptional time domain performance.

Low-Pass Filters

www.tek.com/components/low-pass-filters

Model	Low Freq. -3 dB	Rise Time	Return Loss	RF Connector
PSPL5915	35 MHz – 10 GHz 36 ps – 10 ns	~0.35/BW	>15 dB@f _o	SMA
PSPL5933	7.46 GHz or 8 GHz	~0.35/BW	>12 dB	SMA
PSPL5935	10 GHz – 28 GHz	33 ps to 12.6 ps	>12 dB >9 dB	2.92 mm or 2.4 mm

Tektronix designs low-pass (Rise Time) filters that produce very clean transient responses. Rise Time filters are also sometimes called Transition Time Converters or TTCs. These filters are based on a proprietary, absorption design that has frequency responses that are similar to Bessel-Thomson (B-T) filters, but provide superior transient response.

Tektronix offers the most popular filters for Gigabit Ethernet, Fibre Channel, and SONET data rates up to 40 Gb/s.

Power Dividers and Pick-off Tees

www.tek.com/components/power-dividers-and-pick-off-tees

Model	Type	Bandwidth	Rise Time	Output Ratios	RF Connector
PSPL5331	Power Divider	18 GHz	17 ps	6 dB, 6 dB	SMA
PSPL5333	Power Divider	25 GHz	15 ps	6 dB, 6 dB	SMA
PSPL5334	Power 1:4 Divider	25 GHz	15 ps	12 dB (4x)	SMA
PSPL5335	Amplified 1:4 Clock Splitter	35 GHz	10 ps	0 dB	2.92 mm
PSPL5336	Splitter	20 GHz	20 ps	6 dB, 6 dB	SMA
PSPL5340	Pick-Off	8 GHz	50 ps	10 dB, 3.3 dB	SMA
PSPL5350	Divider	40/50 GHz	8 ps	6 dB, 6 dB	2.92 mm or 2.4 mm
PSPL5361	Pick-Off	40 GHz	7 ps	14 dB, 1.8 dB	2.92 mm or 2.4 mm
PSPL5370	Pick-Off	>25 GHz	<17 ps	14 dB, 0.8 dB / 20 dB, 0.4 dB	SMA
PSPL5372	Z-Matched Pick-Off	>26 GHz	15 ps	14 dB, 2.0 dB	SMA

Tektronix Power Dividers are resistive tees that have excellent performance and frequency response from DC to as high as 50 GHz. Models PSPL5331, PSPL5333, and PSPL5350 split the signal into two equal replicas of the input signal. Both outputs are 6 dB down from the input power.

Several versions of Pick-Off Tees are available. These components produce a small replica of a signal at a pick-off port, at ratios of 10, 14, or 20 dB down from the input signal level.

The output ratio in the table refers to the power ratio of the pick-off port to the input signal, and the power ratio of the through-line to the input signal respectively.

Component Ordering Information

Amplifiers & Drivers

Product	Description	Connector Size	Connector Configuration
PSPL5828A	AMPLIFIER, 14 GHz, 10 dB GAIN	SMA	jack (F) to jack (F)
PSPL5840B	AMPLIFIER, 13.5 GHz, 21 dB GAIN	SMA	jack (F) to jack (F)
PSPL5865	DRIVER AMPLIFIER, 12.5 GB/S	SMA	jack (F) to jack (F)
PSPL5866	AMPLIFIER, 25 dB GAIN, 2.5 kHz-10 GHz	SMA	jack (F) to jack (F)
PSPL5867	LINEAR AMPLIFIER, 15 GHz	<i>must choose one connector option:</i>	
opt. SMAJJ	J-J SMA connectors	SMA	jack (F) to jack (F)
opt. SMAPP	P-P SMA connectors	SMA	plug (M) to plug (M)
PSPL5868	DRIVER AMPLIFIER, 10.7 Gb/s	SMA	jack (F) to jack (F)
PSPL5882	AMPLIFIER, 40-45 GHz, 16 dB GAIN	<i>required, must choose one connector option:</i>	
opt. 240JJ	J-J 2.4 mm connectors	2.4 mm	jack (F) to jack (F)
opt. 240JP	J-P 2.4 mm connectors	2.4 mm	jack (F) to plug (M)
opt. 292JJ	J-J 2.92 mm connectors	2.92 mm	jack (F) to jack (F)
PSPL8001	DRIVER AMPLIFIER, 12.5 Gb/s, LABware	SMA	jack (F) to jack (F)
PSPL8003	LINEAR AMPLIFIER, 15 GHz, LABware	SMA	jack (F) to jack (F)

Baluns & Transformers

Product	Description	Connector Size	Connector Configuration
PSPL5100	INVERTING TRANSFORMER	SMA	jack (F), jack (F), jack (F)
PSPL5310R	PHASE-MATCHED BALUN	SMA	jack (F), jack (F), jack (F)
PSPL5315	DIFF PULSE SPLITTER-BALUN	SMA	jack (F), jack (F), jack (F)
PSPL5320B	DIFF PULSE SPLITTER-BALUN	SMA	jack (F), jack (F), jack (F)

DC Blocks

Product	Description	Connector Size	Connector Configuration
PSPL5500A	DC BLOCK, 50 V	SMA	jack (F) to plug (M)
PSPL5501A	DC BLOCK, 50 V	SMA	jack (F) to plug (M)
PSPL5508	DC BLOCK, 16 V	SMA	jack (F) to plug (M)
PSPL5509	DC BLOCK	<i>must choose one connector option:</i>	
opt. 240JP	J-P 2.4 mm connectors	2.4 mm	jack (F) to plug (M)
opt. 292JP	J-P 2.92 mm connectors	2.92 mm	jack (F) to plug (M)
		<i>and, required, must choose one voltage option:</i>	
opt. 16 V	16 V blocking voltage		
opt. 50 V	50 V blocking voltage		

Bias Tees

Product	Description	Connector Size	Connector Configuration
PSPL5530B	BIAS TEE, 12.5 GHz, 200 V	SMA	jack (F), jack (F), jack (F)
PSPL5531	BIAS TEE, 10 GHz, 1.5 kV	SHV	jack (F) to jack (F)
PSPL5541A	BIAS TEE, 26 GHz, 50 V	SMA	jack (F), jack (F), jack (F)
PSPL5542	BIAS TEE, 50 GHz, 16 V	<i>must choose one connector option:</i>	
opt. 240JJ	2.4 mm connectors	2.4 mm	jack (F) to jack (F)
opt. 292JJ	2.92 mm connectors	2.92 mm	jack (F) to jack (F)
opt. 292SMB	2.92 mm connectors w/ SMB DC port	2.92 mm	plug (M) to jack (F)
PSPL5542K	KELVIN BIAS TEE	2.92 mm	jack (F) to jack (F)
PSPL5543	BIAS TEE, 100 V, 500 mA	<i>must choose one connector option:</i>	
opt. 240JJ	2.4 mm connectors	2.4 mm	jack (F) to jack (F)
opt. 292JJ	2.92 mm connectors	2.92 mm	jack (F) to jack (F)
PSPL5544	BIAS TEE, 100 V, 2 A	<i>must choose one connector option:</i>	
opt. 240JJ	2.4 mm connectors	2.4 mm	jack (F) to jack (F)
opt. 292JJ	2.92 mm connectors	2.92 mm	jack (F) to jack (F)
opt. 292JP	2.92 mm connectors	2.92 mm	jack (F) to jack (F)
PSPL5545	BIAS TEE, 20 GHz, 50 V	SMA	jack (F) to jack (F)
PSPL5546	BIAS TEE, 7 GHz, 50 V	SMA	jack (F) to jack (F)
PSPL5547	BIAS TEE, 15 GHz, 50 V	SMA	jack (F) to jack (F)
PSPL5550B	BIAS TEE, 18 GHz, 50 V	SMA	jack (F), jack (F), jack (F)
PSPL5575A	BIAS TEE, 12 GHz, 50 V	SMA	jack (F), jack (F), jack (F)
PSPL5580	BIAS TEE, 15 GHz, 50 V, 2 A	SMA	jack (F) to jack (F)
PSPL5585	BIAS TEE, 2-18 GHz, 100 V, 6 A	SMA	jack (F) to jack (F)
PSPL5587	BIAS TEE, -2-2 GHz, 100 V, 6 A	SMA	jack (F) to jack (F)
PSPL5589	BIAS TEE, -3-2.86 GHz, 100 V, 7 A	SMA	jack (F) to jack (F)

Power Dividers

Product	Description	Connector Size	Connector Configuration
PSPL5331	POWER DIVIDER, 6 dB	SMA	jack (F) all ports
PSPL5333	POWER DIVIDER, 6 dB	SMA	jack (F) all ports
PSPL5334	QUAD DIVIDER, 12 dB	SMA	jack (F) all ports
PSPL5335	AMPLIFIED 1:4 CLOCK SPLITTER	2.92 mm	jack (F) all ports
PSPL5336	POWER SPLITTER, 6 dB	SMA	jack (F) all ports
PSPL5350	POWER DIVIDER, 6 dB	<i>must choose one connector option:</i>	
opt. 240JJJ	J-J-J 2.4 mm connectors	2.4 mm	jack (F) all ports
opt. 292JJJ	J-J-J 2.92 mm connectors	2.92 mm	jack (F) all ports
PSPL5380	PAM-4 KIT	1.85 mm in 2.4 mm out	jack (F) all ports

Pick-off Tees

Product	Description	Connector Size	Connector Configuration
PSPL5340	PICK-OFF TEE, 10 dB	SMA	jack (F), jack (F), jack (F)
PSPL5361	PICKOFF TEE, 14 dB (5X)	<i>must choose one connector option:</i>	
opt. 240JJJ	J-J-J 2.4 mm connectors	2.4 mm	jack (F), jack (F), jack (F)
opt. 240JPJ	J-P-J 2.4 mm connectors	2.4 mm	jack (F), plug (M), jack (F)
opt. 292JJJ	J-J-J 2.92 mm connectors	2.92 mm	jack (F), jack (F), jack (F)
PSPL5370	PICK-OFF TEE	SMA	jack (F), jack (F), jack (F)
opt. 14DB	14 dB pick-off		
opt. 20DB	20 dB pick-off		
PSPL5372	PICK-OFF TEE, 2 PORT Z-MATCHED	SMA	jack (F), jack (F), jack (F)

Low-Pass Filters

Product	Description	Connector Size	Connector Configuration
PSPL5915	LOW PASS FILTER	<i>required, must choose one filter option:</i>	
opt. 220MHz	220 MHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 35MHz	35 MHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 467MHz	467 MHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 700MHz	700 MHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 797MHz	797 MHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 1GHz	1 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 1P5GHz	1.5 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 1P59GHz	1.59 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 1P87GHz	1.87 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 3GHz	3 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 3P19GHz	3.19 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 5GHz	5 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 6GHz	6 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 6P37GHz	6.37 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 7P46GHz	7.46 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 7P73GHz	7.73 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 10GHz	10 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 100PS	100 ps rise time	SMA	jack (F) to plug (M)
opt. 120PS	120 ps rise time	SMA	jack (F) to plug (M)
opt. 125PS	125 ps rise time	SMA	jack (F) to plug (M)
opt. 130PS	130 ps rise time	SMA	jack (F) to plug (M)
opt. 150PS	150 ps rise time	SMA	jack (F) to plug (M)
opt. 175PS	175 ps rise time	SMA	jack (F) to plug (M)
opt. 200PS	200 ps rise time	SMA	jack (F) to plug (M)
opt. 220PS	220 ps rise time	SMA	jack (F) to plug (M)
opt. 240PS	240 ps rise time	SMA	jack (F) to plug (M)
opt. 250PS	250 ps rise time	SMA	jack (F) to plug (M)
opt. 300PS	300 ps rise time	SMA	jack (F) to plug (M)
opt. 330PS	330 ps rise time	SMA	jack (F) to plug (M)
opt. 36PS	36 ps rise time	SMA	jack (F) to plug (M)
opt. 430PS	430 ps rise time	SMA	jack (F) to plug (M)
opt. 45PS	45 ps rise time	SMA	jack (F) to plug (M)
opt. 500PS	500 ps rise time	SMA	jack (F) to plug (M)
opt. 60PS	60 ps rise time	SMA	jack (F) to plug (M)
opt. 64PS	64 ps rise time	SMA	jack (F) to plug (M)
opt. 900PS	900 ps rise time	SMA	jack (F) to plug (M)
opt. 1NS	1 ns rise time	SMA	jack (F) to plug (M)
opt. 2NS	2 ns rise time	SMA	jack (F) to plug (M)
opt. 5NS	5 ns rise time	SMA	jack (F) to plug (M)
opt. 10NS	10 ns rise time	SMA	jack (F) to plug (M)
PSPL5933	LOW PASS FLAT GROUP FILTER	<i>required, must choose one filter option:</i>	
opt. 7P46GHz	7.46 GHz 3 dB frequency	SMA	jack (F) to plug (M)
opt. 8GHz	8 GHz 3 dB frequency	SMA	jack (F) to plug (M)
PSPL5935	LOW PASS FILTER	<i>must choose one connector option:</i>	
opt. 240JP	J-P 2.4 mm connectors	2.4 mm	jack (F) to plug (M)
opt. 292JP	J-P 2.92 mm connectors	2.92 mm	jack (F) to plug (M)
		<i>required, must choose one filter option:</i>	
opt. 10GHz	10 GHz 3 dB frequency		
opt. 12P5GHz	12.5 GHz 3 dB frequency		
opt. 15GHz	15 GHz 3 dB frequency		
opt. 17P5GHz	17.5 GHz 3 dB frequency		
opt. 20GHz	20 GHz 3 dB frequency		
opt. 22P5GHz	22.5 GHz 3 dB frequency		
opt. 25GHz	25 GHz 3 dB frequency		
opt. 28GHz	28 GHz 3 dB frequency		
opt. 20PS	20 ps rise time		

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