

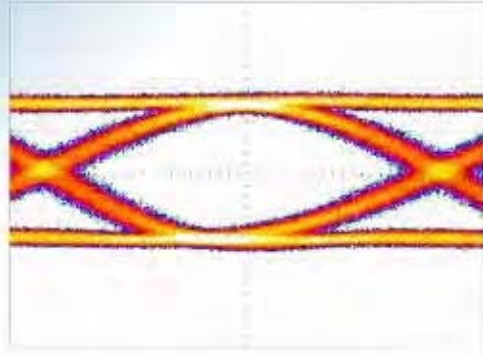


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Datasheet

SHF 10410

1:4 Signal Splitter





Description

The 1 to 4 Channel Signal Splitter SHF 10410 is an instrument which splits an input signal into four output signals. Each of the four output channels has a 160 ps delay line. Channels 2 to 4 have additional fixed delays of approximately 2, 4 and 6 ns respectively. It is capable of providing four 10 GBit/s data streams from a single 10 Gbps bit pattern generator to a 4:1 multiplexer, e.g. SHF 5005 A.

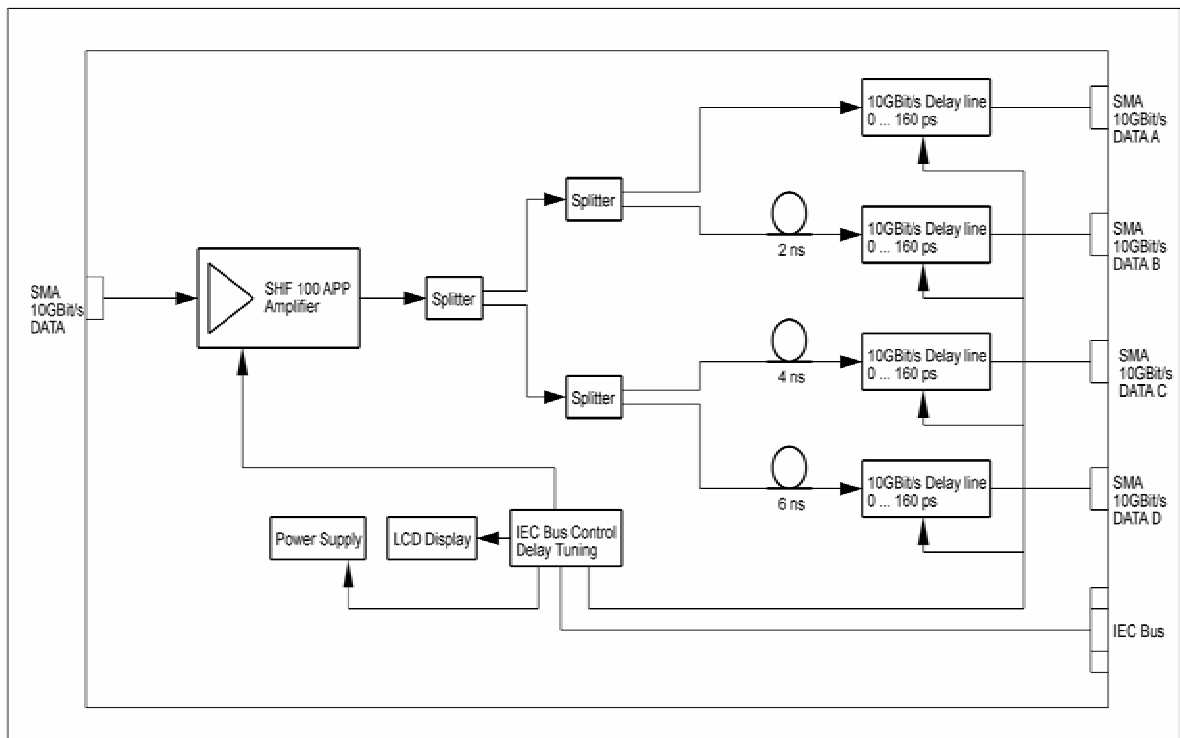
The instrument has been tuned for optimal performance at the Data C output, so slight degradation might be expected at the other outputs. When using only one output of the instrument, the other three outputs must be terminated with a 50 Ω load.

For best results do not exceed 600 mV_{pp} input level since the output signals start to degrade at higher input levels!

Features

- wide band operation up to more than 10 GBit/s
- 0...160 ps delay variation
- SMA female input and output connectors
- high efficiency switching power supply
- all functions microprocessor controlled
- external GPIB control

Functional Block Diagram





Specifications

Parameter	Unit	Min.	Typ.	Max.	Conditions
Maximum input power	dBm (mV)			3 (900)	
Impedance	Ω		50		
Data A absolute delay ¹	ns		3		+ 160ps adjustable
Data B absolute delay ¹	ns		5		+ 160ps adjustable
Data C absolute delay ¹	ns		7		+ 160ps adjustable
Data D absolute delay ¹	ns		9		+ 160ps adjustable
Delay variation	ps	0		160	
Delay resolution	ps		1		
Positioning error	ps		± 0.4		
Input/output return loss	dB			12 8	<10 GHz <20 GHz
Gain	dB	5	7	9	
Rise/fall time	ps			50	
General					
Power consumption	W			30	
Weight	kg		9.5		
Operating temperature	°C	10		35	
Storage temperature	°C	-20		70	
Input connector					SMA female
Output connectors					SMA female
Dimensions (WxHxD)					472x110x365 mm

¹ Approximate values only. An inspection report is supplied with each instrument indicating the exact delay

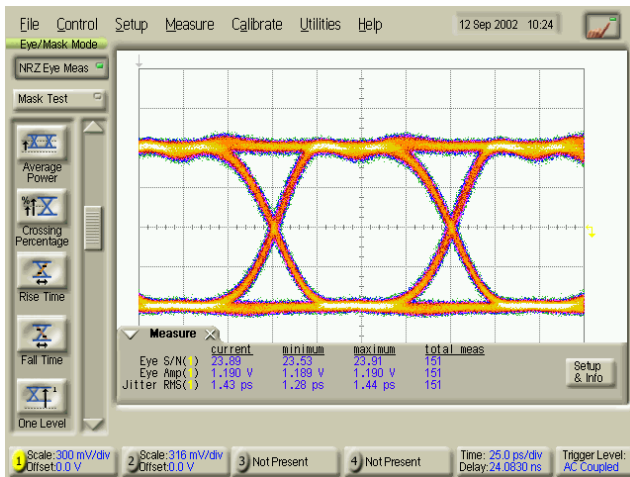
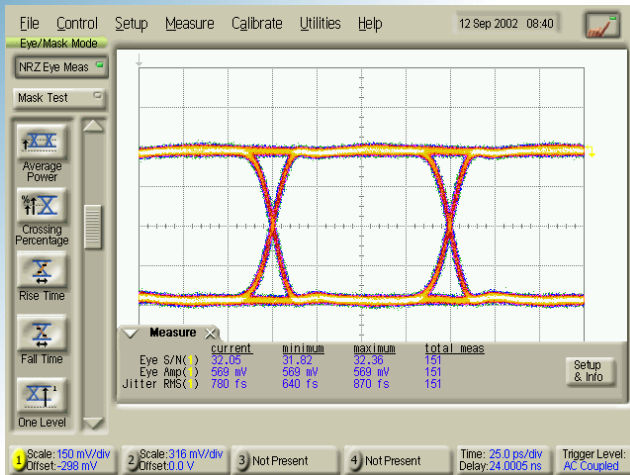


Output Waveforms

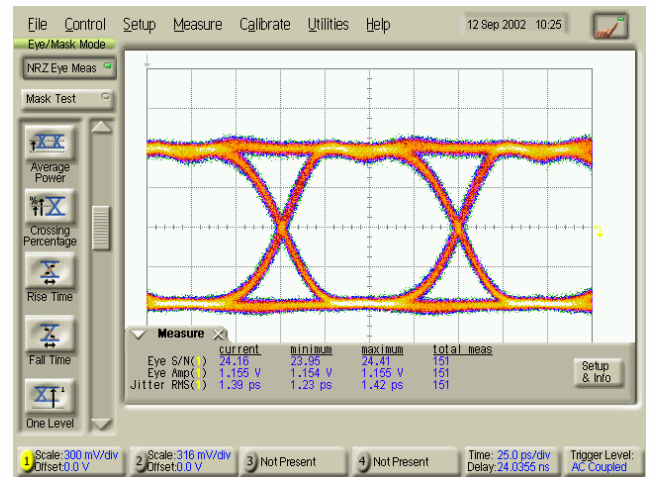
Input Data Signal generated by SHF BPG 44 E

PRBS 2¹⁵-1

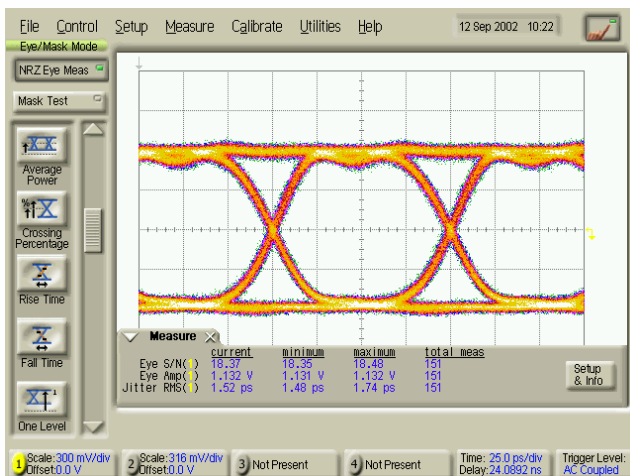
569 mV



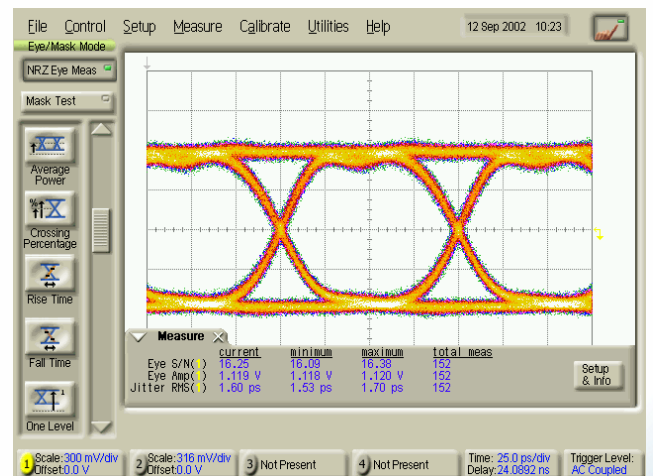
Data A Output Signal (1190 mV)



Data B Output Signal (1155 mV)



Data C Output Signal (1132 mV)



Data D Output Signal (1119 mV)