

WAVEFADE™ LOWPASS FILTER

FL-0470

Wavefade™ filters utilize state-of-the-art filter technology to achieve ultra-flat group delay as compared to conventional Bessel-Thomson filters. These filters are intended for high data rate digital signaling applications and guarantee an open, symmetrical eye without causing unwanted pulse overshoot (ringing) or group delay distortions. Wavefade™ filters are absorptive with excellent 50 Ω impedance match in both passband and stopband thereby reducing unwanted reflections in the system. The nominal magnitude response of Wavefade filters is designed to match the 4th order Bessel magnitude response for compatibility with SONET/SDH compliance testing standards (e.g. ITU-T Recommendation G.691).



Features

- Ultra-Flat Group Delay
- Absorptive-type filter (i.e. Return Loss > 12 dB in Stopband)
- Bessel-like Passband Rolloff
- Yields Symmetrical Eye Diagrams with minimal ringing and group delay distortion
- Standard and User Defined Filters

Applications

- High data rate, high sensitivity digital receivers
- SONET/SDH Optical Reference Receiver compliance testing
- Advanced optical modulation formats (e.g. Duobinary)

Specifications

Parameter	Min	Typ	Max
3 dB Cutoff Frequency (GHz)		4.7	
Cutoff Tolerance (%)		± 5	
Return Loss (dB)	12	15	
Impedance (Ω)		50	
Rejection @ 2*Cutoff (dB)	11.4	13.4	
RF Power (W)			1
Group Delay Flatness @ 2*Cutoff (ps)			± 8

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Performance Figures

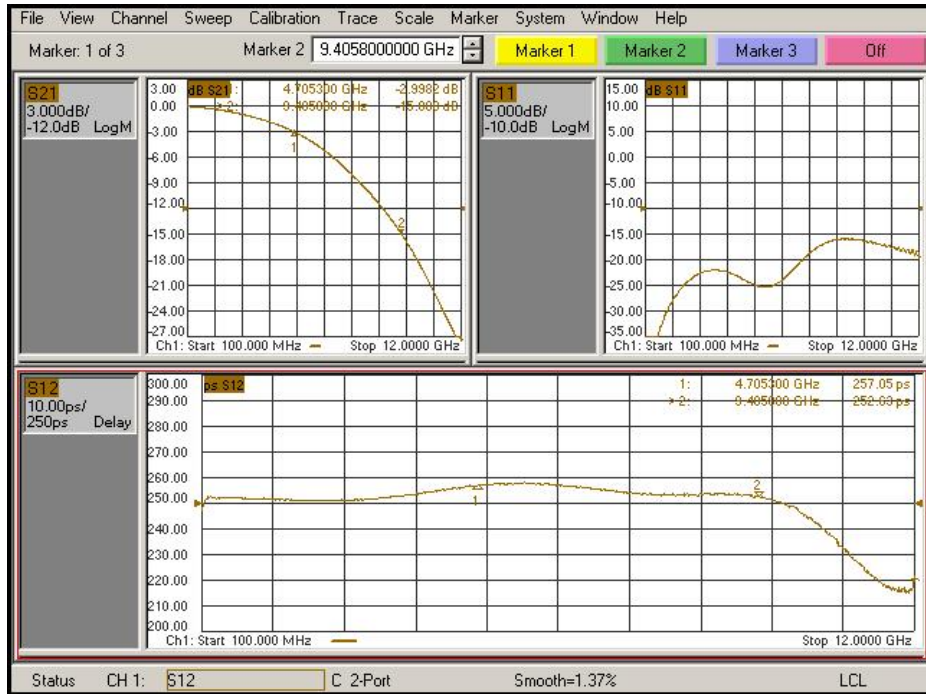


Fig. 1. Magnitude Response(Top) and Group Delay Response(Bottom) for a typical 4.7 GHz Wavefade™ measured at an Aperture of 165 MHz.

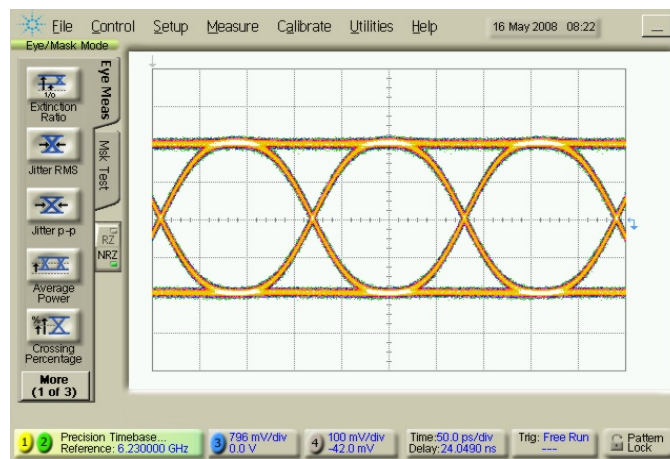


Fig. 2. Filtered output @ 6.23 Gb/s using a 4.7 GHz Wavefade™.

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Part Number Options

<i>Please specify connector configuration by adding to model number.</i>					
Cutoff Frequency (GHz)	Model number	Connector configuration ¹		Example	Outline
4.7	FL-0470	No dash (F-F)			
User Defined	Contact factory	-1 (F-M)	S (SMA)	FL-0470- <u>2</u> <u>K</u> (K-Male in; K-Female out)	FL1
		-2 (M-F)	K (2.92)		
		-3 (M-M)	V (2.40)		

¹Connectors are SMA by default.

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