

## WAVEFADE™ LOWPASS FILTER

FL-0187

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  $\Omega$  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 4<sup>th</sup> 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)		1.87	
Cutoff Tolerance (%)		± 5	
Return Loss (dB)	12	15	
Impedance ( $\Omega$ )		50	
Rejection @ 2*Cutoff (dB)	11.4	13.4	
RF Power (W)			1
Group Delay Flatness @ 2*Cutoff (ps)			± 15

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Performance Figures



Fig. 1. Magnitude Response (Top) and Group Delay Response (Bottom) for a typical 1.87 GHz Wavefade™ measured at an Aperture of 80 MHz.

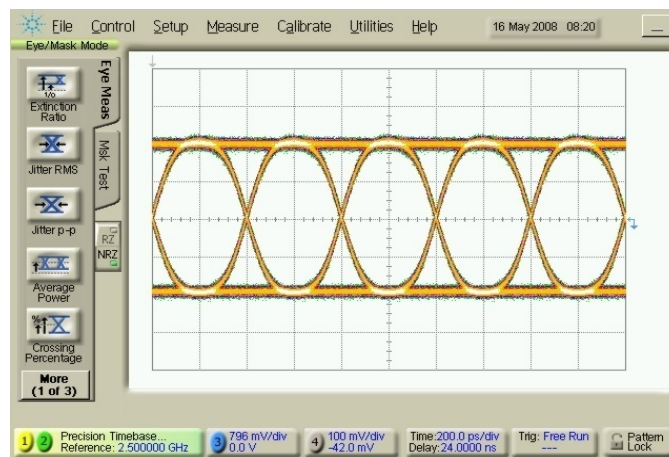


Fig. 2. Filtered output @ 2.5 Gb/s using a 1.87 GHz Wavefade™.

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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 <sup>1</sup>		Example	Outline
1.87	FL-0187	No dash (F-F)			
User Defined	Contact factory	-1 (F-M)	S (SMA)	FL-0187- <u>2</u> <u>K</u> (K-Male in; K-Female out)	<a href="#">FL1</a>
		-2 (M-F)	K (2.92)		
		-3 (M-M)	V (2.40)		

<sup>1</sup>Connectors are SMA by default.

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