

SHG-FA Series

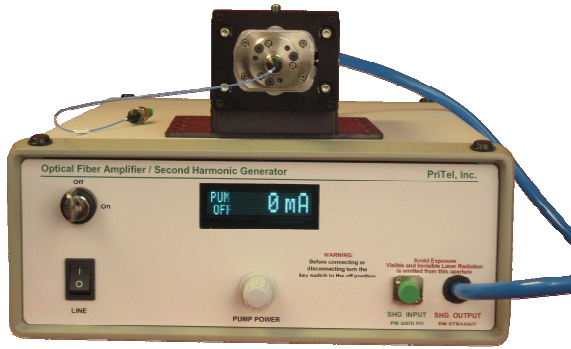
Second Harmonic Generator with Integrated Amplifier

PriTel's SHG-FA Series of Second Harmonic Generators with Integrated Amplifiers can be used in a variety of research applications at 764 to 782 nm.

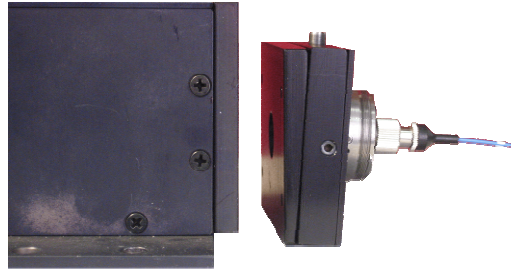
The SHG-FA Series is designed to be used with PriTel's FFL Series of easy-to-use passively mode-locked fiber lasers that provide polarization maintaining, high peak power pulses at 1528 - 1565 nm with pulsewidths from 10 ps to 0.1 ps. The addition of the SHG-FA (with a temperature-controlled section containing periodically-poled LiNbO₃) to the FFL yields frequency-doubled pulses from 764 to 782 nm at relatively high power.

The FFL plus SHG-FA is easy to use with no external equipment required. The optics are fiber-based, and no alignment is required. This makes the FFL-SHG-FA system a very valuable tool in the research laboratory.

Applications include telecom, biomedical, microscopy and materials sciences.



Second Harmonic Generator with Integrated Fiber Amplifier (shown with *fiber-coupled output*)



Second Harmonic Generator with Integrated Fiber Amplifier (shown as *Dual function fiber-coupler*)

Typical Specifications

	SHG-FA-200	SHG-FA-120
Wavelength	768 nm to 782 nm, tunable	764 nm to 780 nm, tunable
Typical output power (varies with pulse repetition frequency and pulsewidth)	200 mW free-space output 90 mW fiber-coupled output	120 mW free-space output 70 mW fiber-coupled output
Input Pulsewidth	10 ps to 0.1 ps	10 ps to 0.1 ps
Pulse repetition freq.	5 MHz to 100 MHz, fixed	5 MHz to 100 MHz, fixed
Fundamental suppression	≥ 30 dB	≥ 30 dB
Optical		
SHG medium	Temperature-controlled periodically-poled LiNbO ₃	
Amplifier gain medium	Er/Yb-doped double-clad silica fiber	Er -doped silica fiber
Fundamental source	Passively mode-locked fiber laser at 1530 – 1560 nm	
Connectors	Free space or fiber-coupled (FC/PC; other connectors available on request)	
Environmental		
Operating temperature	+15 to 30 °C	
Storage temperature	-20 to 50 °C	
Electrical/ Mechanical		
Operating Voltage	110/220 VAC	
Dimensions	10 cm x 26 cm x 28 cm (plus 5.5 cm x 5.5 cm x 12 cm for free-space-output head)	

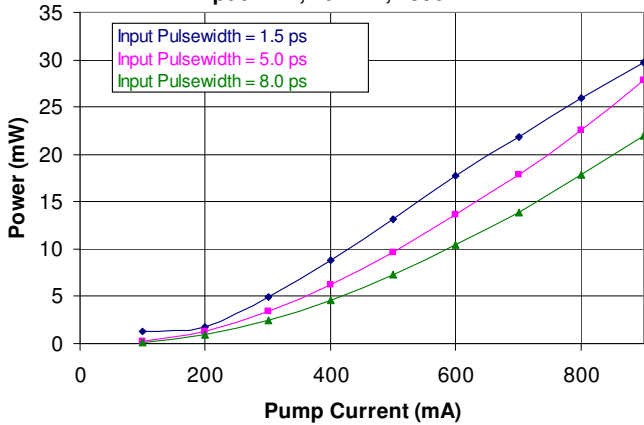
PriTel, Inc.

P.O. Box 4025, Naperville, IL 60567-4025, USA
Ph: 630-983-2200, Fx: 630-983-2260 (USA)
E-mail: PriTel@PriTel.com, Internet: www.PriTel.com

Typical Performance of PriTel's Second Harmonic Generators with Integrated Fiber Amplifiers

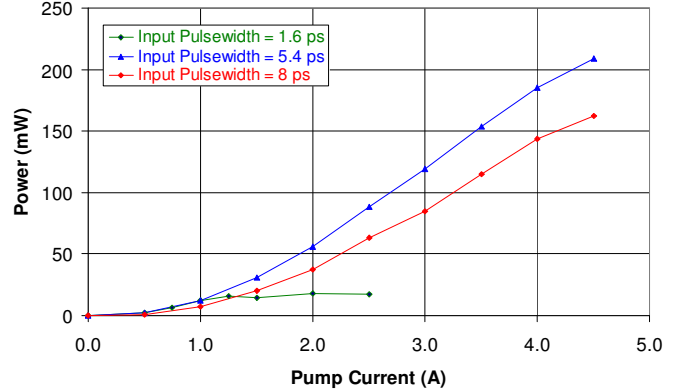
Model FA-SHG-50 Fiber-coupled output:

SHG Output Power: Input Pulsewidth Dependence
Input: FFL, 20 MHz, 1550 nm

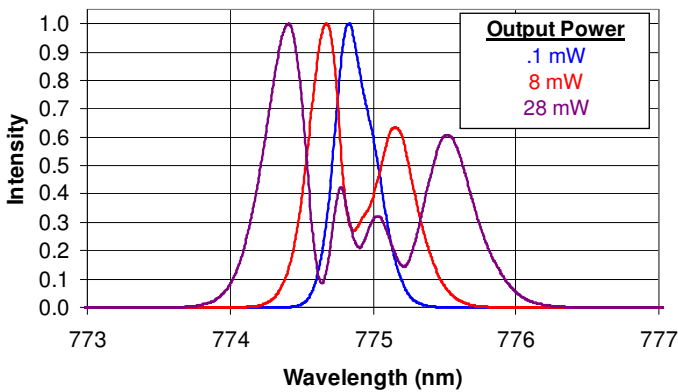


Model FA-SHG-200 Free-space output:

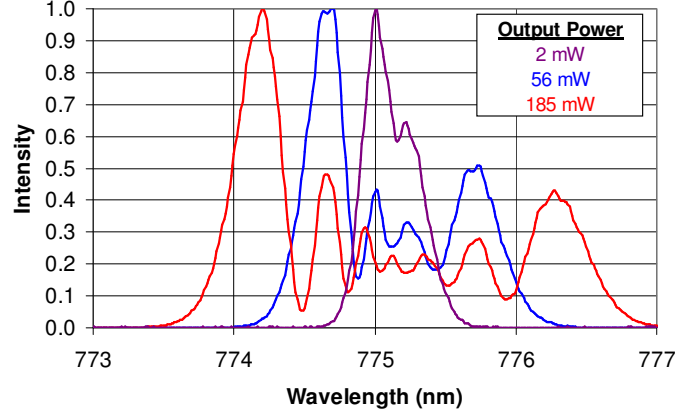
SHG Output Power: Input Pulsewidth Dependence
Input: FFL, 20 MHz, 1550 nm



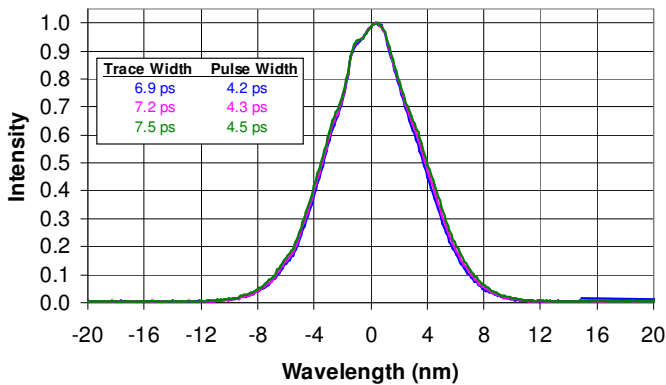
SHG Output Spectrum @ Input = 5 ps



SHG Output Spectrum @ Input = 5 ps



SHG Autocorrelation @ Input = 5 ps



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SHG-FA_R10

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