

SHG-FA Series

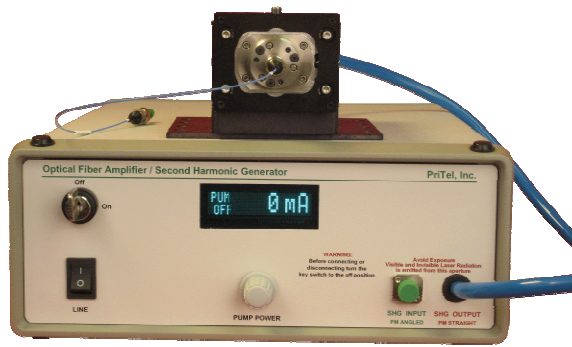
Second Harmonic Generator with Integrated Amplifier

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.

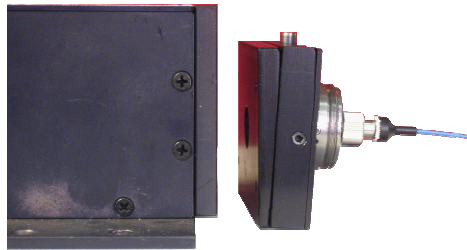
The SHG-FA Series is designed to be used with PriTel's FFL Series of easy-to-use passively mode-locked fiber lasers that provide polarization maintaining, high peak power pulses at 1528 - 1565 nm with pulsewidths from 10 ps to 0.1 ps. The addition of the SHG-FA (with a temperature-controlled section 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 is *Dual function fiber-coupler*)

Typical Specifications

	<u>SHG-FA-200</u>	<u>SHG-FA-50</u>
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	50 mW free-space output 25 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)	

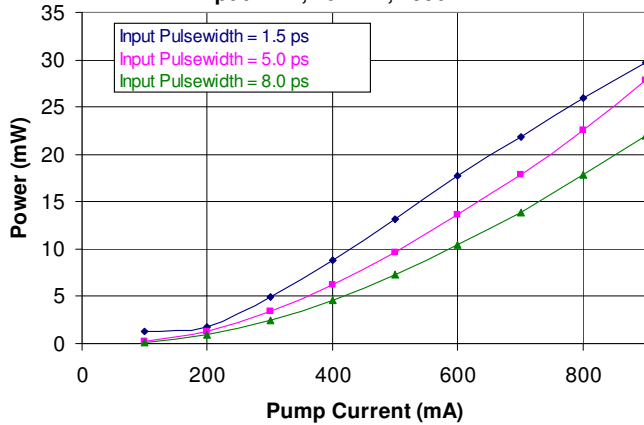
PriTel, Inc.

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

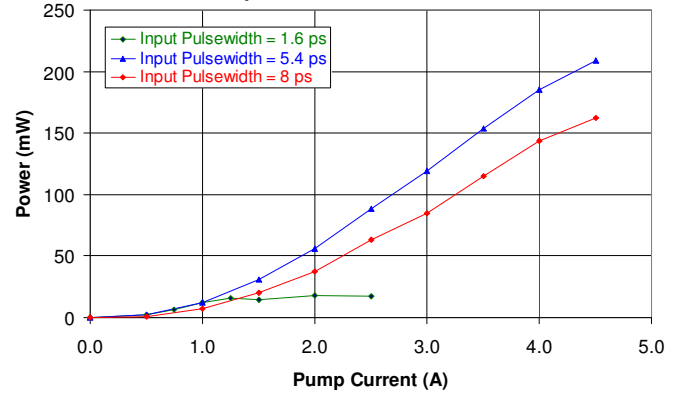
Model FA-SHG-50 Fiber-coupled output:

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

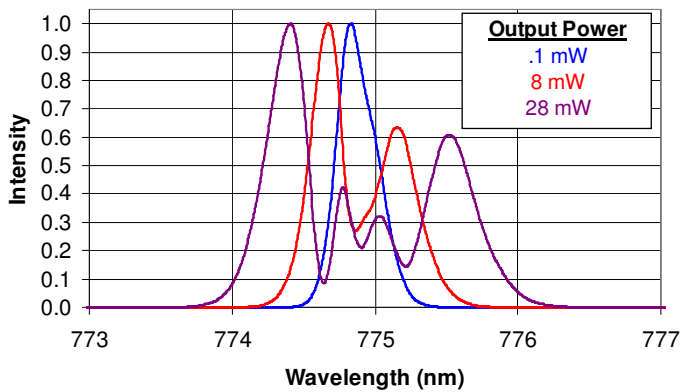


Model FA-SHG-200 Free-space output:

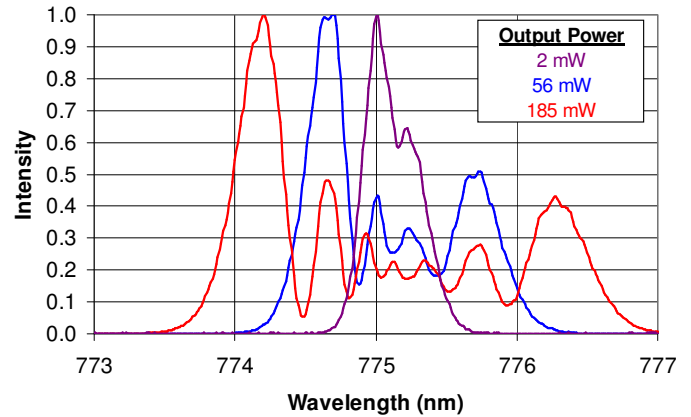
SHG Output Power: Input Pulsewidth Dependence
Input: FFL, 20 MHz, 1550 nm



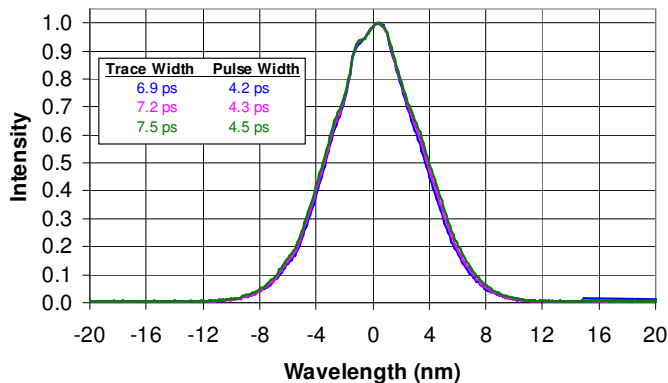
SHG Output Spectrum @ Input = 5 ps



SHG Output Spectrum @ Input = 5 ps



SHG Autocorrelation @ Input = 5 ps



Information contained herein is deemed to be reliable and accurate. PriTel, Inc. assumes no responsibility and shall have no liability relating to its use. PriTel, Inc. reserves the right to change product specifications at any time without notice.



SHG-FA rev6A

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