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 0.6 ps. The addition of the SHG-FA (with a temperature-controlled section containing periodically-poled $LiNbO_3$) 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 **free-space** output)*

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

Typical Specifications

	SHG-FA-200	**SHG-FA-50**
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 at 20 MHz	60 mW free-space output 40 mW fiber-coupled output at 20 MHz
Pulsewidth	10 ps to 0.6 ps, variable	10 ps to 0.6 ps, variable
Optical bandwidth	0.2 nm to 2 nm	0.2 nm to 2 nm
Pulse repetition freq.	5 MHz to 100 MHz, fixed	5 MHz to 100 MHz, fixed
Fundamental suppression	≥ 40 dB	≥ 40 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)	

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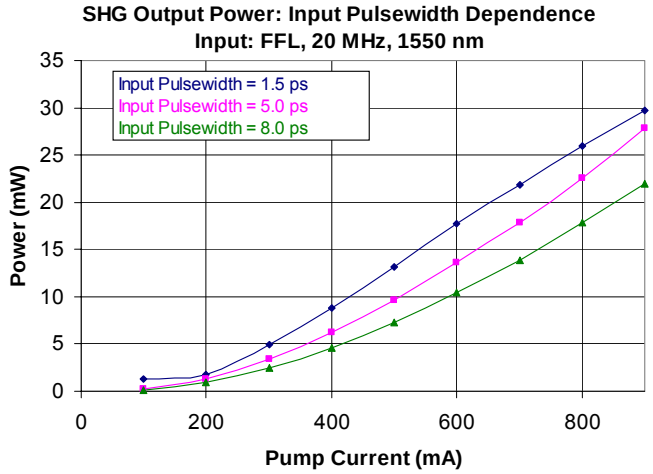
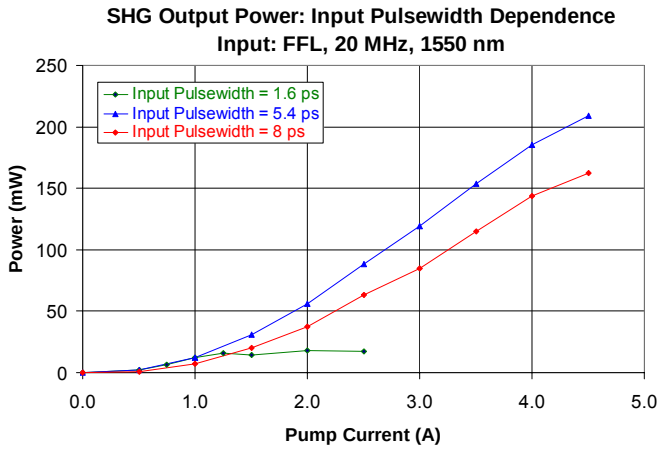
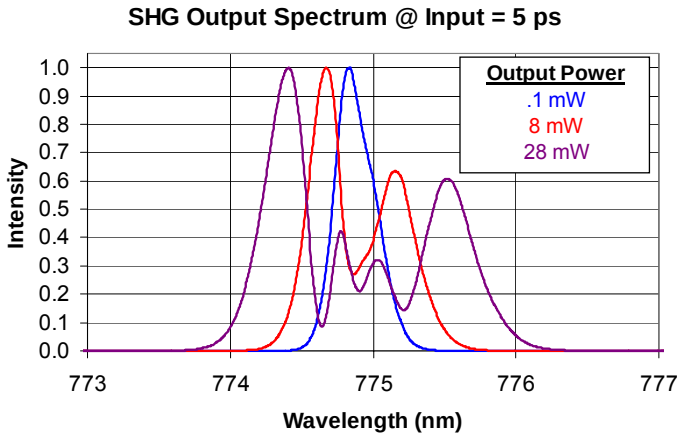
Typical Performance of PriTel's Second Harmonic Generators with Integrated Fiber Amplifiers

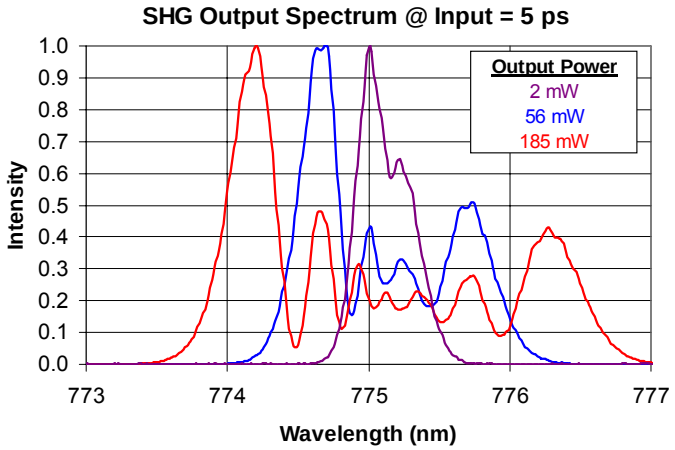
Model FA-SHG-50
Fiber-coupled output:

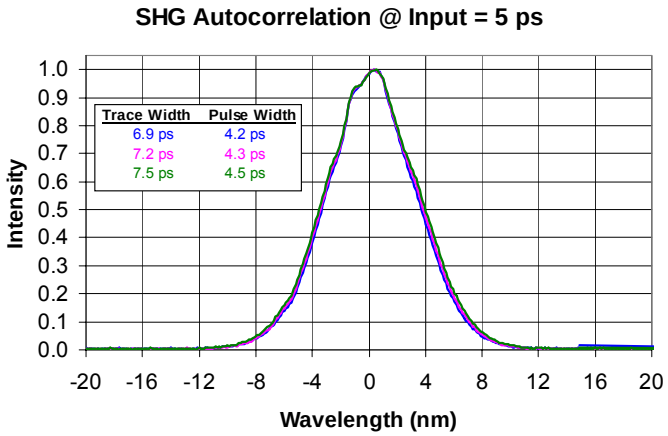


Model FA-SHG-200
Free-space output:









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