

SOPRANO 15

Femtosecond Laser for Material-Processing, etc.



DESCRIPTION

SOPRANO – the latest femtosecond laser of Cycle GmbH – is the ideal solution for various applications. For example, for Material Processing of Silicon it is the optimal tool for an attractive price.

SOPRANO is designed to survive harsh industrial as well as scientific environments and to deliver reliable 24/7 operation. It was developed in close cooperation with biomedical and material science experts to provide a unique light source with the best features of complex laser systems at an affordable price.

KEY SPECIFICATIONS preliminary

- Wavelength at **1560 nm**
- Pulse Energy up to **5 μ J**
- Repetition rates **1 MHz to 30 MHz** fixed (tunable optional)
- Pulse duration below **300 fs**

Please feel free to discuss also your other laser needs with us. Our team of experienced laser engineers will find a useful combination of parameters which will best fit your application. We love to **design custom lasers** too.

*for SOPRANO 1300/1700nm

Parameters <small>preliminary</small>	Laser	Comment
Center wavelength	1560 nm	780 nm output optional
Pulse Duration	<300 fs	Shorter Pulses Optional
Avg. output power	5 W	
Pulse energy	Up to 5 μ J	Repetition rate dependent
Peak power	50 MW	at 1 MHz
Pulse repetition rate	30 MHz	down to 1 MHz optional
Spectral bandwidth	transform-limited	$\tau_p \cdot \Delta\nu \sim 0.35$
Beam quality	$M^2 < 1.2$, TEM ₀₀	
PER	> 20 dB	
Laser output	collimated free space	
Mechanical		
Size laser head (L x W x H)	800 x 450 x 300 mm ³	Custom Housing optional
Weight laser head	10 kg	
Size controller	19"/3U rack mount	
Weight controller	10 kg	
Electrical		
Power supply	100 – 240 VAC 50 – 60 Hz	
Power consumption	< 300 W	

Please inquire about other possible specifications!

APPLICATION

- Semiconductor Testing (e.g. OBIC)
- Material Processing e.g. Silicon
- OPO/OPA Pumping
- Spectroscopy
- Sensing

OPTIONS

- Pulse Picker (down to single shot)
- Energy up to 5 μ J at 1 MHz
- Tunable pulse duration
- Burst mode
- SHG Modules

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Cycle SOPRANO is a Class 4 Laser Product