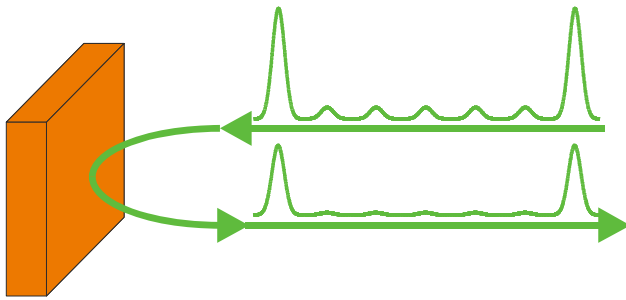


SANOS™ – saturable noise suppressor



product overview

- cleaning of optical noise between consecutive pulses after a pulse picker or optical amplifier
- all optical wavelength conversion of pulsed optical signals

SANOS 1064	laser wavelength	$\lambda = 1064 \text{ nm}$
	FWHM	17 nm
	noise suppression ratio	10 .. 20 dB
	insertion loss	3 dB .. 6 dB
	relaxation time	$\tau \sim 5 \text{ ps}$
	saturation fluence	$\Phi_{\text{sat}} = 4 \dots 8 \mu\text{J}/\text{cm}^2$

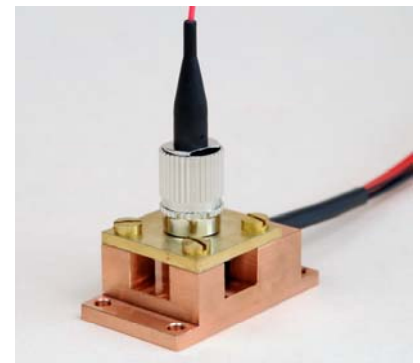
SANOS 1550	laser wavelength	$\lambda = 1530 \text{ nm} \dots 1560 \text{ nm}$
	FWHM	16 nm
	noise suppression ratio	6 .. 18 dB
	insertion loss	3 dB
	relaxation time	$\tau \sim 5 \text{ ps}$
	saturation fluence	$\Phi_{\text{sat}} = 10 \mu\text{J}/\text{cm}^2$

Other wavelengths and parameters on request.

mounting types



Free space (FS) SANOS™

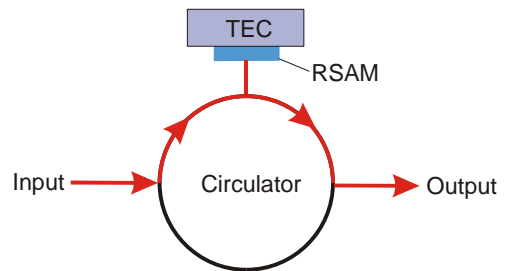
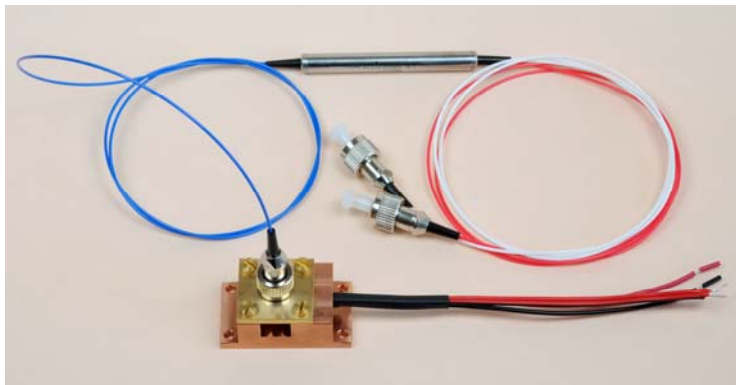


fiber coupled (FC) SANOS™ with
TEC cooler



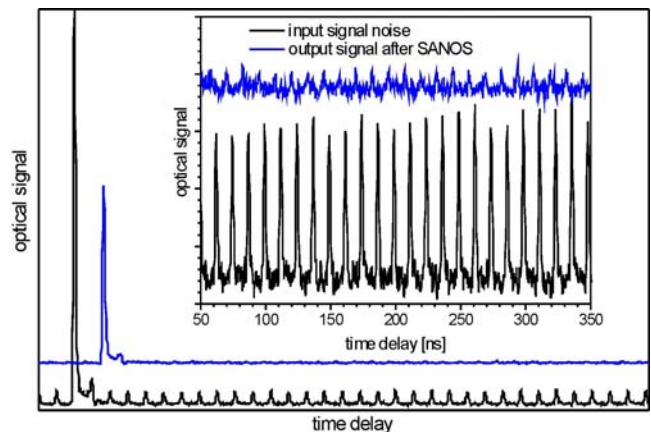
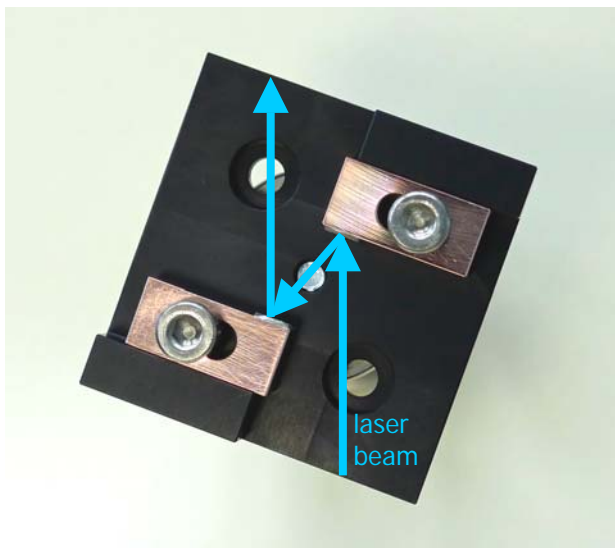
fiber coupled SANOS™

FC-SANOS™ with thermoelectric cooler (TEC)



A FC-SANOS is a resonant saturable absorber mirror (RSAM), mounted on a circulator. The RSAM has a strong non-linear reflectance, therefore the low level input signal transmittance of the FC-SANOS is only 3% (97% loss), whereas high intensity pulses are transmitted with a lower loss of 50%. Because the RSAM is a resonant device, the noise is only suppressed at the resonance wavelength. The RSAM is temperature controlled using a thermoelectric cooler/heater (TEC) for fine tuning of the resonance wavelength with a maximum shift of 6 nm.

FS-SANOS™

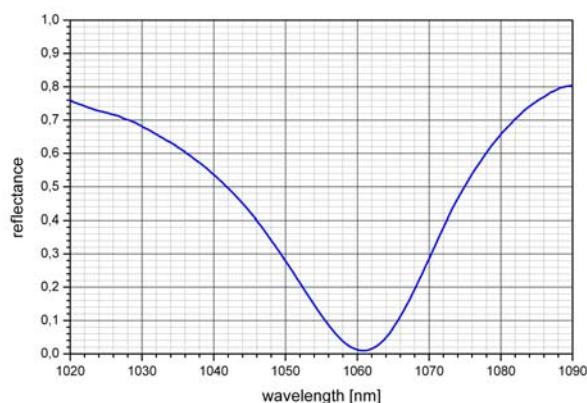


Measured suppression of small pulses (after a pulse picker) using a SANOS. The black curve is the time dependent optical signal, which hits the SANOS and the blue curve is the SANOS output signal.

A FS-SANOS consists of a resonant saturable absorber mirror (RSAM) and a conventional 100% mirror (optional with second RSAM). The beam propagates through the FS-SANOS without changing of the direction, but with a parallel offset of about 2 mm. The RSAM has a strong non-linear reflectance, therefore the low level input signal transmittance is only 2% (98% loss), whereas high intensity pulses are transmitted with a lower loss of 50%.

Spectral transmission:

SANOS-1064-X



SANOS-1550-X

