

SAM[®] – saturable absorber mirror

product overview

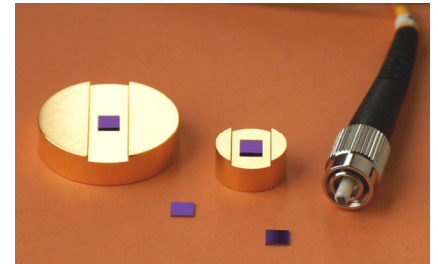
- for passive mode-locking of solid state, fiber or microchip lasers



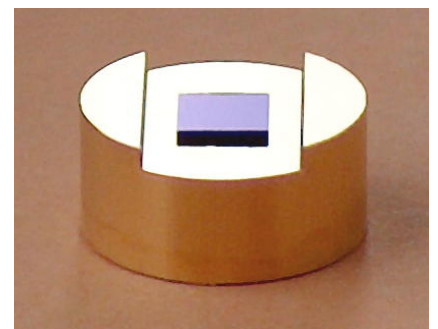
Miscellaneous relaxation times!
New: SAM 1150nm!

SAM 760	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 760 \text{ nm}$ $\lambda = 740 - 780 \text{ nm}$ $A_0 = 1 - 5 \%$ $\tau = 3 \text{ ps}$
SAM 800	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 800 \text{ nm}$ $\lambda = 780 - 810 \text{ nm}$ $A_0 = 1 - 8 \%$ $\tau = 10 \text{ ps}$
SAM 940	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 940 \text{ nm}$ $\lambda = 910 - 990 \text{ nm}$ $A_0 = 2 - 30 \%$ $\tau = 500 \text{ fs}$
SAM 980	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 980 \text{ nm}$ $\lambda = 910 - 990 \text{ nm}$ $A_0 = 2 - 20 \%$ $\tau = 500 \text{ fs}$
SAM 1040	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 1040 \text{ nm}$ $\lambda = 980 .. 1060 \text{ nm}$ $A_0 = 0.7 - 65 \%$ $\tau = 500 \text{ fs} / 10 \text{ ps}$
SAM 1064	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 1064 \text{ nm}$ $\lambda = 1030 .. 1100 \text{ nm}$ $A_0 = 0.5 - 70 \%$ $\tau = 500 \text{ fs} / 10 \text{ ps}$
SAM 1150	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 1150 \text{ nm}$ $\lambda = 1110 .. 1190 \text{ nm}$ $A_0 = 3 - 6 \%$ $\tau = 500 \text{ fs}$
SAM 1300	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 1300 \text{ nm}$ $\lambda = 1220 .. 1340 \text{ nm}$ $A_0 = 4 - 12 \%$ $\tau = 10 \text{ ps}$
SAM 1550	laser wavelength high reflection band (R>99%) saturable absorption relaxation time	$\lambda = 1550 \text{ nm}$ $\lambda = 1460 .. 1590 \text{ nm}$ $A_0 = 1 - 50 \%$ $\tau = 2 \text{ ps} / 10 \text{ ps}$

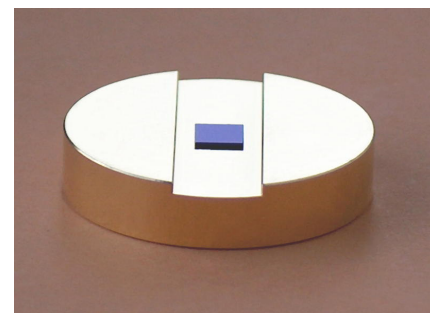
Other wavelengths and parameters on request.



mounting types



12.7 mm Ø - (1/2" Ø) - Cu-Mount



25.4 mm Ø - (1" Ø) - Cu-Mount



fiber coupled SAM

Saturation fluence:

$$\Phi_{\text{sat}} \approx 70 \mu\text{J}/\text{cm}^2$$

Non-saturable loss:

$$A_{\text{ns}} \approx 0.3 A_0$$

Chip area:

1 mm x 1 mm, 4 mm x 4 mm (other on request)

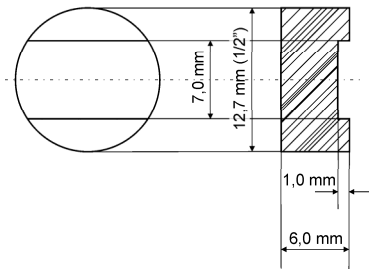
Chip thickness:

400 μm (other on request)

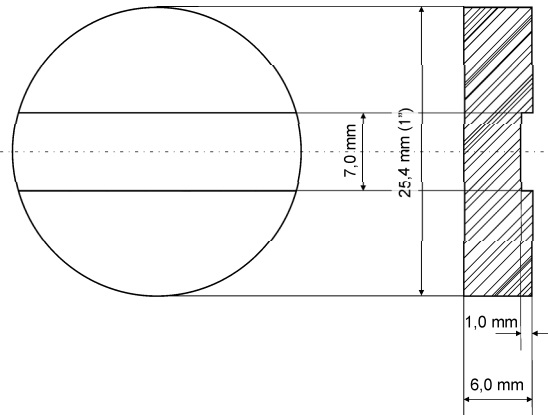
Mount:

- unmounted
- 12.7 mm $\varnothing$ (1/2" $\varnothing$)
- 25.0 mm $\varnothing$
- 25.4 mm $\varnothing$ (1" $\varnothing$)
- fiber coupled (SMF, PM)

Cu-Mount $\varnothing$ 12.7 mm:

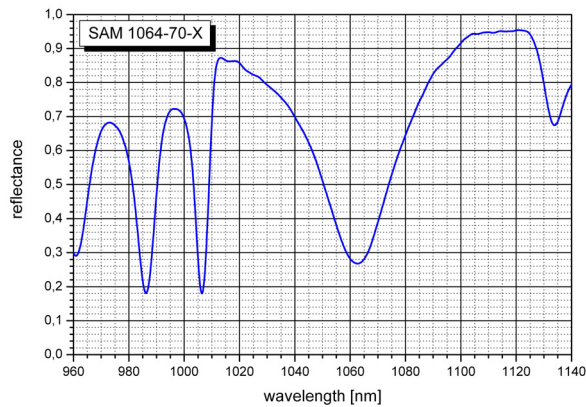


Cu-Mount $\varnothing$ 25.4 mm:

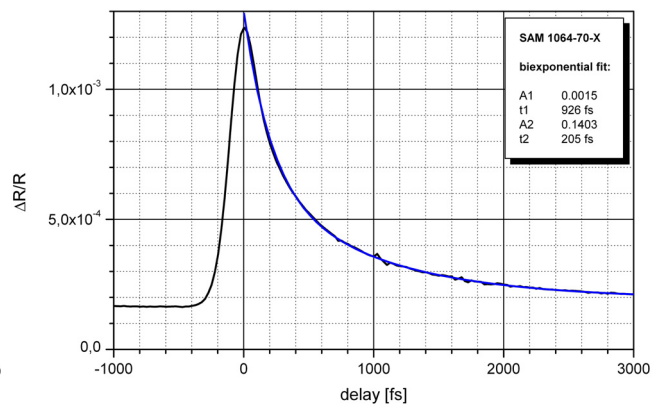


SAM 1064-70-X

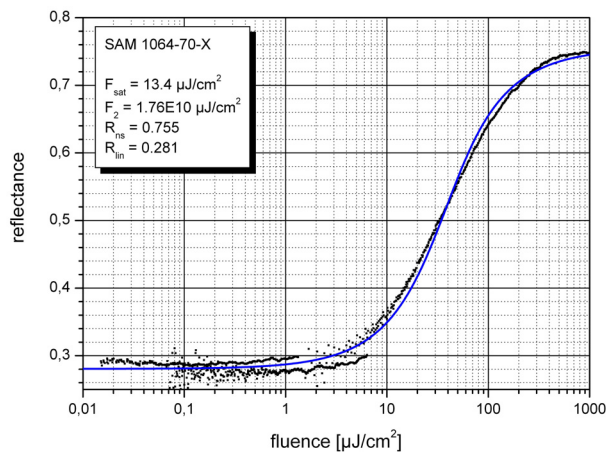
Spectral reflection:



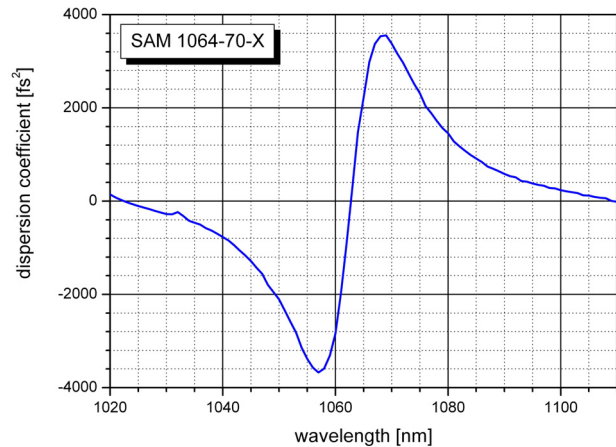
Pump-probe relaxation measurement*:



Nonlinear reflectance*:



Dispersion coefficient (GVD):



* measurements by D. Fischer and G. Steinmeyer, Max-Born-Institut Berlin, Germany