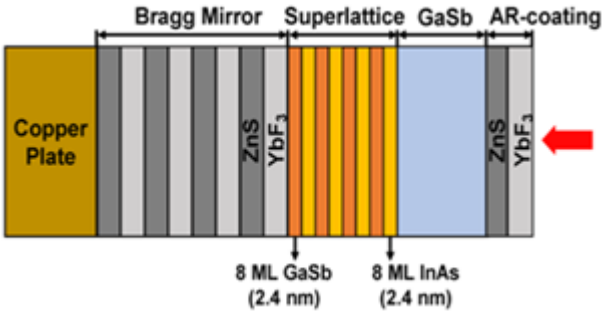
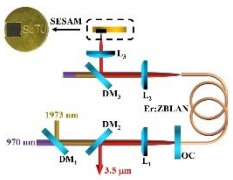
SESAM

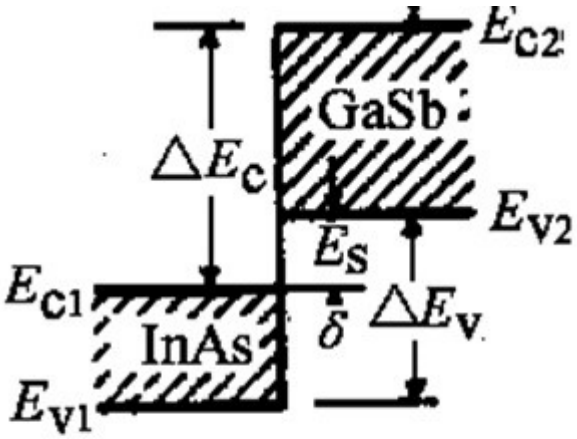
SESAM (Semiconductor Saturable Absorber Mirror) mode-locked ultrafast pulsed lasers represents an important breakthrough in the development of mode-locked lasers, but a key challenge remains, that is, extending SESAM technology to the mid-infrared (MIR) region.

We propose a design based on InAs/GaSb superlattice SESAM, which can achieve over 99% reflectivity, 10%~15% modulation depth, 1.4ps-720ps flexibility in the wavelength range of 2800nm-5000nm. relaxation time and high saturation energy flow, it can achieve stable phase mode locking function. This is the first time in the world to realize a 3-5μm ultrafast fiber laser. Its ultra-wide operating bandwidth and flexible parameter design can meet the requirements of different types of lasers in the 3-5μm band, such as fluoride fiber lasers, crystal lasers, and even 3-5μm spectral range. The application requirements of semiconductor lasers, etc., will greatly promote the development of mid-infrared ultrafast coherent sources and related application fields.

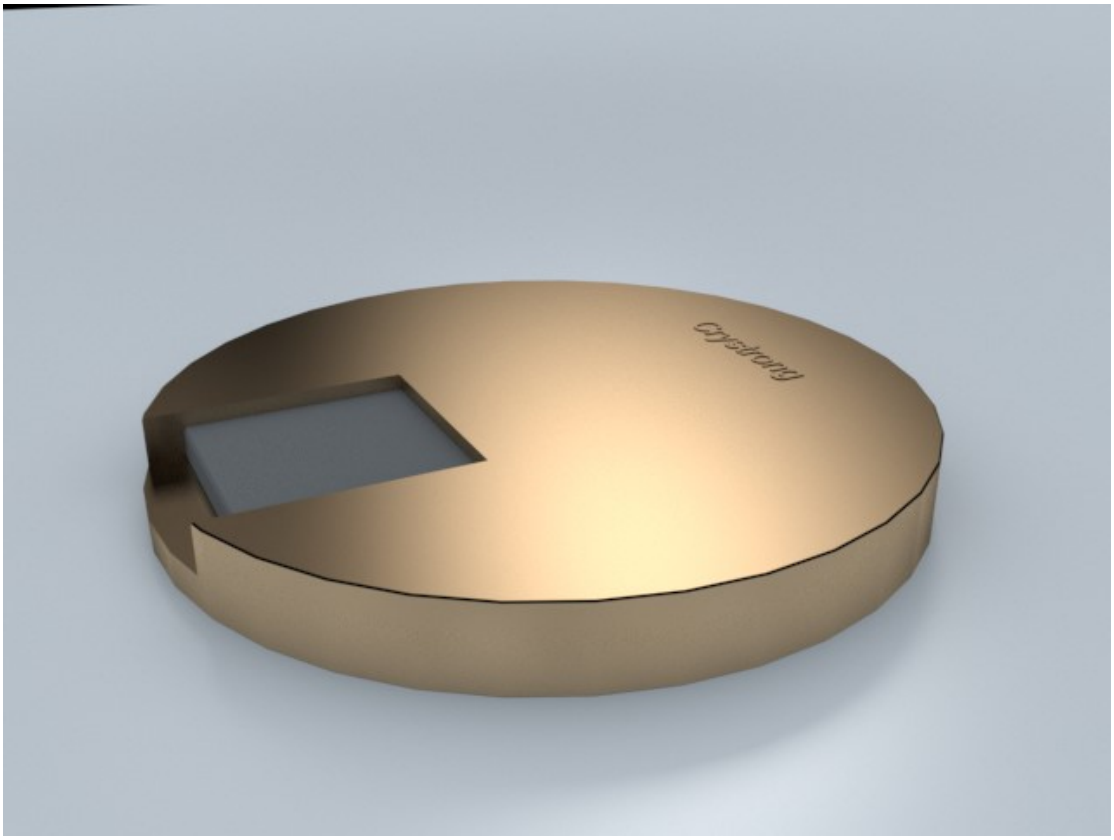




SESAM in Er:ZBLAN laser



InAs/GaSb Superlattice Structure



Product Specifications:

Model type	SAM-2800-40-680ps-c/e	SAM-3500-38-720ps-c/e	SAM-3500-38-7ps-c/e	SAM-3500-38-1.4ps-c/e

Central wavelength	2800nm	3500nm	3500nm	3500nm
Absorptivity	40%	38%	38%	38%
Modulation depth	15%	11.5%	14%	11.5%
Absorption recovery time	680ps	720ps	7ps	1.4ps
Saturation fluence	70μJ/cm²	70μJ/cm²	50μJ/cm²	40μJ/cm²

Main advantages:

- The world's first 3-5 μm high-stability mid-infrared mode-locked laser
- Higher damage threshold
- Perfect and fast after-sales service
- Competitive product prices