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BATOP optoelectronics

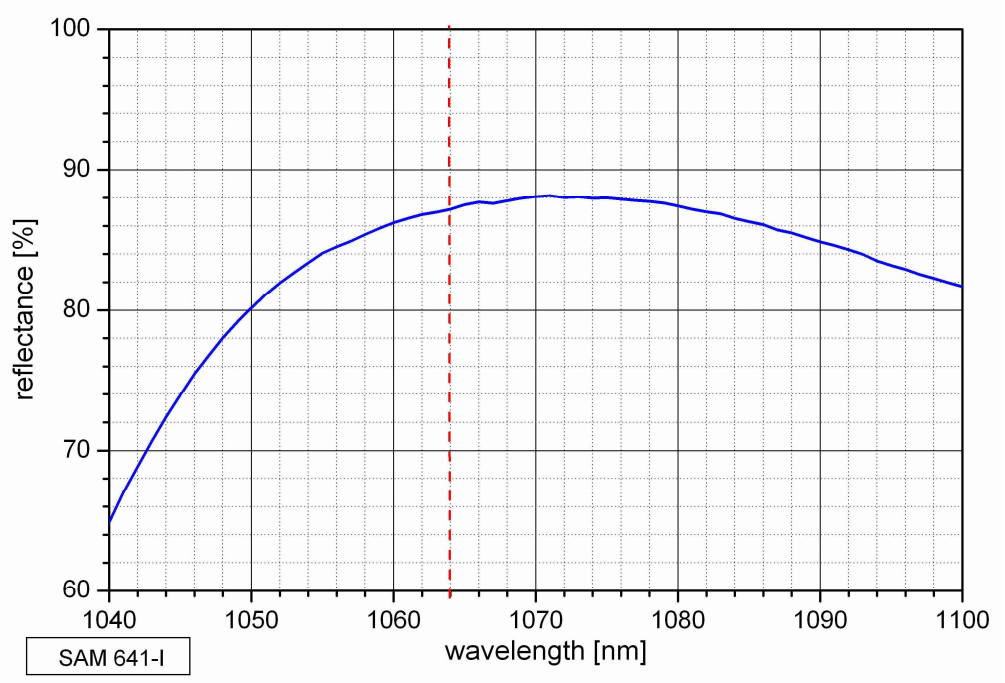
# SAM™ Data Sheet SAM-1064-13-124ps-x, λ = 1064 nm

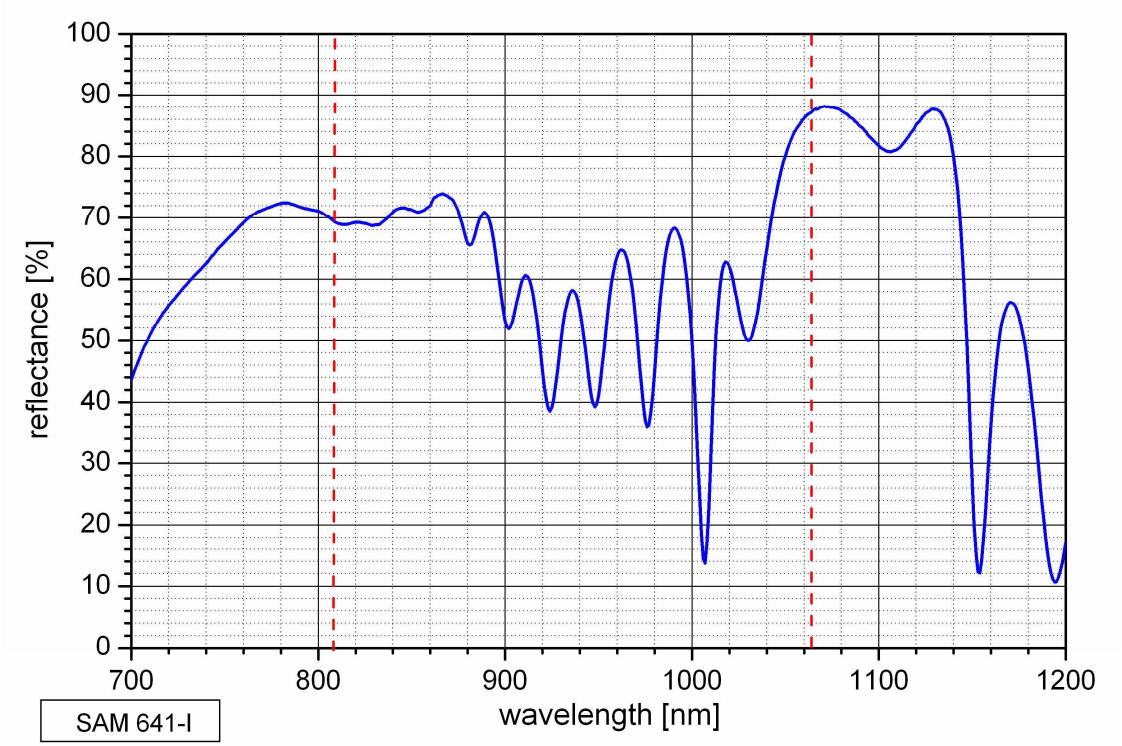
| | |
|---|---|
| Laser wavelength | λ = 1064 nm |
| High reflection band | λ = 1050 .. 1100 nm |
| Reflectance at 808 nm | $R_{808}$ = 70 % |
| Absorbance | $A_0$ =13 % |
| Modulation depth | ΔR = 7 % |
| Non-saturable loss | $A_{ns}$ = 6 % |
| Saturation fluence | $\Phi_{sat}$ = 130 µJ/cm$^2$ |
| Relaxation time constant | τ ~ 124 ps |
| Damage threshold | Φ = 2.5 mJ/cm$^2$ |
| Chip area | 4.0 mm x 4.0 mm; other dimensions on request |
| Chip thickness | 450 µm |
| Dielectric coating | HR @ 808 nm and AR @ 1064 nm |

Mounting option **x** denotes the type of mounting as follows:

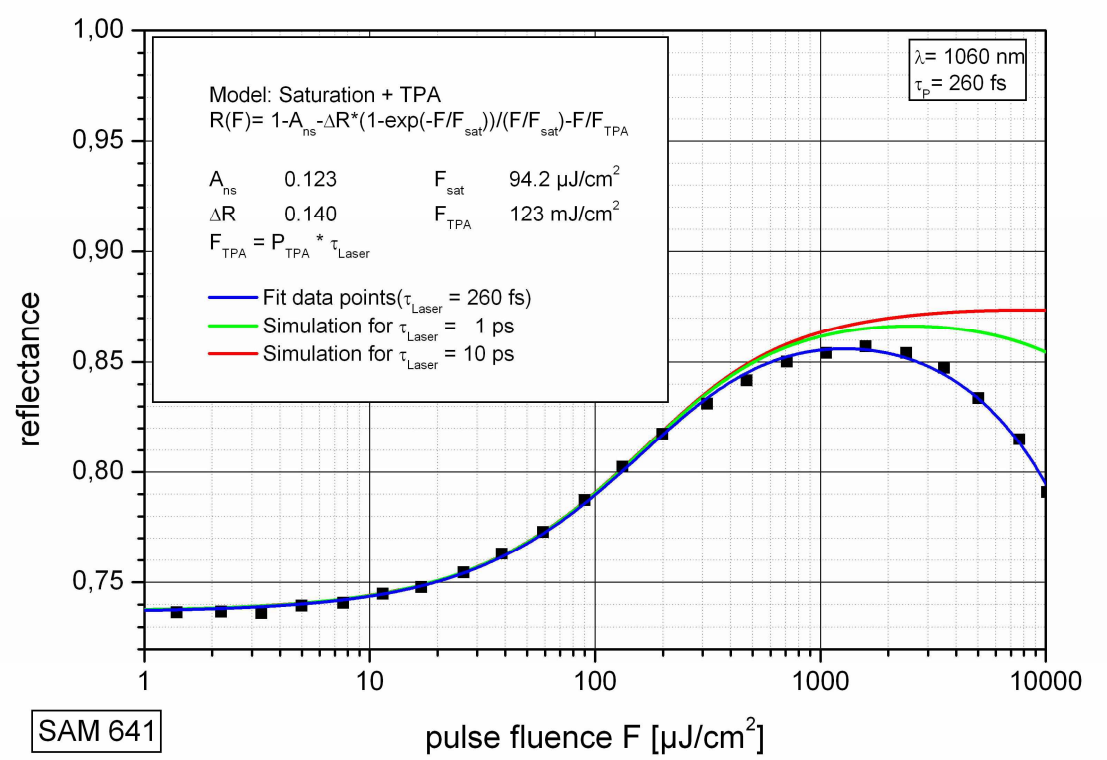
| | |
|---|---|
| **x** = 0 | unmounted |
| **x** = 12.7 g | glued on a copper heat sink with 12.7 mm ∅ |
| **x** = 25.4 g | glued on a copper heat sink with 25.4 mm ∅ |
| **x** = 12.7 s | soldered on a copper heat sink with 12.7 mm ∅ |
| **x** = 25.4 s | soldered on a copper heat sink with 25.4 mm ∅ |
| **x** = 25.4 w | soldered on a water cooled copper heat sink with 25.4 mm ∅ |
| **x** = FC | mounted on a 1 m single mode fiber cable with FC connector |

## Low intensity spectral reflectance






## Saturation measurement without dielectric coating




The saturation measurement has been done using a pulsed laser source with 260 fs pulse duration. Due to the high peak power density the two photon absorption (TPA) is significant in this case. The green and red curves are simulated for the same pulse fluences, but longer pulse durations of 1 ps and 10 ps respectively..

## Pump-probe measurement