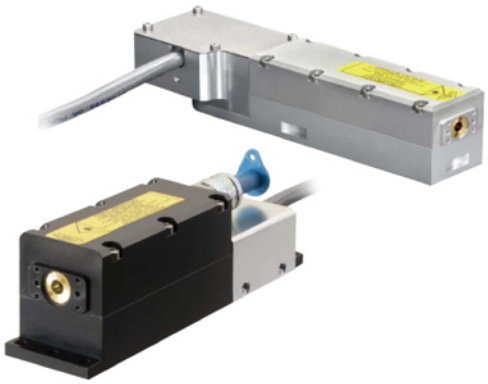
方全有限公司
Rapitech Enterprise Co.,Ltd.

脈衝式固態雷射
Pulsed Solid-State Laser

Composing with light
teem photonics

MicroChip 1064nm脈衝紅外線雷射

Nanosecond, High Average Power 1064nm Lasers



Applications

- Material processing
  - Marking
  - Graphitization
  - Metal ablation
- Biophotonics
  - Nanosurgery
  - Protein crosslinking
- Instrumentation
  - Supercontinuum generation
  - Raman spectroscopy
  - Ranging
  - Differential absorption LIDAR
  - Distributed temperature sensing

Infrared 1064nm SxP lasers (typical values) – Package A

Model	SNP-04E	SNP-06E	SNP-08E
Peak Power (kW)	8	10	13
Average Power (mW)	70	60	60
Repetition rate (kH)	12	9	7
Pulse Width (ps)	700	700	700
Energy/Pulse (μJ)	>6	>7	>9

Infrared 1064nm SxP lasers (typical values) – Package B

Model	SNP-13E	SNP-20F	SNP-40F	SFP-07E	STP-07E
Pulse Width (ps)	700	700	850	550	550
Energy/Pulse (μJ)	15	8	5	8	8
Peak Power (kW)	21	12	6	14	14
Repetition rate (kHz)	6	21	40	0.01-4	0.01-2
Average Power (mW)	90	170	200	≤32	≤16
Peak Power (kW)	11	6	3	10	10
Repetition rate (kHz)	8	21	40	0.01-4	0.01-2
Average Power (mW)	50	70	70	≤14	≤7

1064nm SNx Lasers (typical values)

Model	SNP-30E	SNP-7PW	SNP-400P
Energy/Pulse (μJ)	33	21	15
Repetition rate (kHz)	5	16	28
Average Power (mW)	180	350	420
Pulse Width (ns)	8	6	10

Optional features

- Connector receptacled for multimode fiber coupling
- Photodiode output for synchronization
- Manual controls for CDRH compliance

Features & benefits

Ultrashort pulses
550ps durations

High peak power
Exceeding 20kW per pulse

Variety of frequency options
Free running to 40kHz
Fixed frequency to 4kHz
Triggerable to 2kHz

Excellent beam quality
Gaussian, TEM_{00}, $M^2 \leq 1.3$

Efficient, air cooled
Typically dissipates <10W from laser head and consumes <20W

Extremely long life
High reliability pump diode, specialty optics, and sealed package contribute to MTTF over 14 years and expected lifetimes exceeding 10,000 hours (consult factory for details)

Licensed Technology
Exclusive license on Passively Q-switched pico-second microchip laser:
US Patent 5394413

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