

STP Series Diode-pumped Laser Modules

1. High Power 2 μ m DPSSL Modules

- Compact monolithic laser systems
- Highly efficient diode pumping
- Fiber-coupled versions available
- No high-voltage required
- Reduced waste heat
- Maintenance free
- Process variability



Specifications:

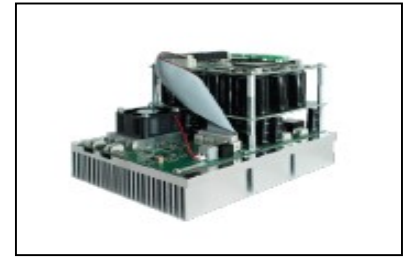
	STP- DPM-25 (Tm:YAG) free / fiber (1)	STP- DPM-50 (Tm:YAG) free / fiber (1)	STP- DPM-100 (Tm:YAG) free / fiber (1)
Optical Parameters			
Wavelength	2020 nm	2020 nm	2020 nm
Average Output Power (max)	25 / 20 W	50 / 40 W	100 / 80 W
Pulse Energy (max)	(0.2 - 1.6 (2)) / (0.16 - 1,28 (2)) J	(0.5 - 4 (2)) / (0.4 - 3.2 (2)) J	(1 - 8 (2)) / (0.8 - 6.4 (2)) J
Pulse Repetition Rate (max)	500 Hz	500 Hz	500 Hz
Pulse Duration	100 to 500 (20 000 (2)) μ s	100 to 500 (20 000 (2)) μ s	100 to 500 (20 000 (2)) μ s
Average Current (max)	8 A	7 A	7 A
Mode of Operation	Pulsed	Pulsed	Pulsed
Efficiency (optical-optical)	> 15 %	> 20 %	> 20 %
Beam Shape (focus)	top hat like	top hat like	top hat like
Free Beam Quality	M2 < 20	M2 <30	M2 <40
Free Beam Diameter	1.6 mm	1.6 mm	1.6 mm
Free Divergence (half angle)	< 20 mrad	< 30 mrad	< 40 mrad
Fiber Diameter Low-OH (1)	~ 100 μ m (NA < 0.2)	~ 150 μ m (NA < 0.2)	~ 200 μ m (NA < 0.2)
Cooling Requirements			
Coolant	Distilled water with Algaecide and Corrosion Inhibitor	Distilled water with Algaecide and Corrosion Inhibitor	Distilled water with Algaecide and Corrosion Inhibitor
Coolant Temperature	25 °C	25 °C	25 °C
Coolant Flow Rate	\geq 4 lpm	\geq 5 lpm	\geq 6 lpm
Coolant Pressure	(2 - 5) bar	(3 - 5) bar	(3 - 5) bar
Required Cooling Power	~ 350 W @ 25 °C Environment Temp.	~ 500 W @ 25 °C Environment Temp.	~ 750 W @ 25 °C Environment Temp.
Electrical Parameters			
Diode Forward Voltage	<40 V	<75 V	<130 V
Diode Forward Current	150 A	150 A	150 A
Average Power Consumption (max)	< 500 W	< 750 W	< 1000 W
Mechanical Dimensions			
W x D x H	120 x 96 x 75 mm	120 x 96 x 75 mm	120 x 120 x 75 mm
Weight	1.5 kg	1.6kg	1.7kg
Emission Height	47.5mm	47.5mm	47.5mm

(1) Fiber as specified by Sintec

(2) With Sintec Ultrapulse Mode (on request only)

Laser Diode Drivers

The LDD series are economic QCW laser diode driver modules designed to provide high current pulses to drive Sintec modules in various applications. It delivers output currents up to 150 A and pulse widths variable from 50 up to 500 μ s operation. Up to 1000 W average output power is available with the supplied heatsink and forced air flow. Several safety features are integrated to protect both laser diode and driver.



	STP-DPM-25 (Tm:YAG)	STP-DPM-50/100 (Tm:YAG)
Laser Diode Driver	LDD-36200	LDD-120200
Output Current	up to 150 A	up to 150 A
Rise Time (10 - 90%)	< 20 μ s	< 20 μ s
Mechanical Dimensions (W x D x H)	200 x 150 x 85 mm	300 x 200 x 120 mm
Efficiency	> 80 %	> 80 %

Test and Evaluate

The Sintec evaluation kits are ready-to-use and straightforward laboratory systems for first feasibility studies in research environment. The evaluation kits are available with three different kind of laser sources (see front page), shortens the development time, enables flexibility and a fast demonstration of feasibility. The test systems are delivered with your requested laser source, a laser control system and a cooling system for laboratory use only. Please contact us for more information on rental or purchase conditions.

Sintec Applications

Medical:

- Aesthetics / Dermatology
- Dentistry
- ENT
- Lithotripsy
- Minimally-Invasive Surgery
- Orthopedics
- Etc.

Industrial:

- Material Processing (Drilling, Cutting, Melting, Welding, Evaporation)
- Analytics
- Security
- Defense

2. High Power 3 μ m DPSSL Modules

- Compact monolithic laser systems
- Highly efficient diode pumping
- Fiber-coupled versions available
- No high-voltage required
- Reduced waste heat
- Maintenance free
- Process variability



Specifications:

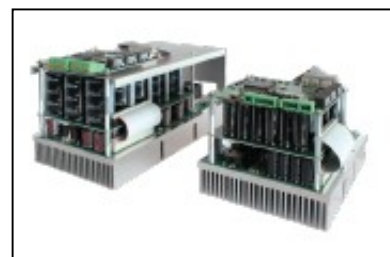
	STP-DPM-2 (Er:YAG) free / fiber (1)	STP-DPM-25 (Er:YAG) free / fiber (1)	STP-DPM-50 (Er:YAG) free / fiber (1)
Optical Parameters			
Wavelength	2940 nm	2940 nm	2940 nm
Average Output Power (max)	2 / 1.2 W	25 / 16 W	50 / 33 W
Pulse Energy (max)	20 (2) / 13 (2) mJ	300 (2) / 200 (2) mJ	600 (2) / 400 (2) mJ
Pulse Repetition Rate	up to 1 kHz	up to 1 kHz	up to 1 kHz
Pulse Duration	40 to 1000 (3) μ s	40 to 1000 (3) μ s	40 to 1000 (3) μ s
Average Current (max)	30 A	25 A	25 A
Mode of Operation	Pulsed	Pulsed	Pulsed

Efficiency (optical-optical)	> 10 %	> 10 %	> 10 %
Beam Shape (focus)	top hat like	top hat like	top hat like
Free Beam Quality	M2 < 5	M2 < 25	M2 < 50
Free Beam Diameter	0.6 mm	1.6 mm	1.6 mm
Free Divergence (half angle)	< 25 mrad	< 25 mrad	< 50 mrad
Fiber Diameter GeO2 (1)	~ 230 μ m (NA < 0.2)	~ 230 μ m (NA < 0.2)	~ 420 μ m (NA < 0.2)
Cooling Requirements			
Coolant	Distilled water with Algaecide and Corrosion Inhibitor	Distilled water with Algaecide and Corrosion Inhibitor	Distilled water with Algaecide and Corrosion Inhibitor
Coolant Temperature	20 to 35 °C	20 to 25 °C	20 to 25 °C
Coolant Flow Rate	\geq 1 lpm	\geq 5 lpm	\geq 6 lpm
Coolant Pressure	(1 - 3) bar	(2 - 5) bar	(3 - 5) bar
Required Cooling Power	~ 150 W @ 25 °C Environment Temp.	~ 540 W @ 25 °C Environment Temp.	~ 780 W @ 25 °C Environment Temp.
Electrical Parameters			
Diode Forward Voltage	2 V	~20 V	~30 V
Diode Forward Current	350 A Pulsed	300 A Pulsed	300 A Pulsed
Average Power Consumption (max)	< 120 W incl. 2 TECs	< 450 W	< 900 W
Mechanical Dimensions			
W x D x H	30 x 32 x 25 mm	120 x 96 x 75 mm	120 x 120 x 75 mm
Weight	60 g	1.5kg	1.7kg
Emission Height	-	47.5mm	47.5mm

- (1) Fiber as specified by Sintec
- (2) For pulse durations > 600 μ s
- (3) 600 μ s standard, 1000 μ s on request

Laser Diode Drivers

The LDD series are economic QCW laser diode driver modules designed to provide high current pulses to drive Sintec modules in various applications. It delivers output currents up to 300 A and pulse widths variable from 50 up to 1000 (3) μ s operation. Up to 1000 W average output power is available with the supplied heatsink and forced air flow. Several safety features are integrated to protect both laser diode and driver.



	STP-DPM-2 (Er:YAG) / STP-DPM-25 (Er:YAG)	STP-DPM-50 (Er:YAG)
Laser Diode Driver	LDD-20300	LDD-30300
Output Current	up to 300 A	up to 300 A
Rise Time (10 - 90%)	< 20 μ s	< 20 μ s
Mechanical Dimensions (W x D x H)	200 x 150 x 85 mm	200 x 150 x 85 mm
Additional Features	Safety circuit and communication interface	Safety circuit and communication interface

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Medical Applications

- Aesthetics / Dermatology
- Dentistry
- ENT
- Lithotripsy
- Minimally-Invasive Surgery

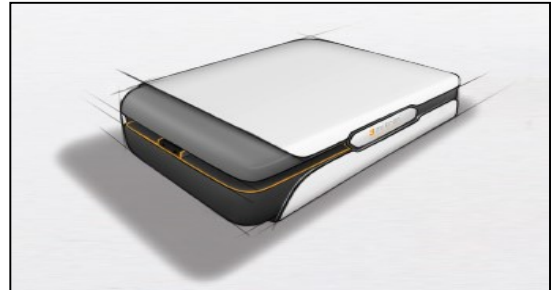
- Orthopedics
- Etc.

Industrial:

- Material Processing (Drilling, Cutting, Melting, Welding, Evaporation)
- Analytics
- Security
- Defense

3. High Energy - Short Pulse Q-Switch DPSSL Module

- High intensity 2.81 μm laser
- Nanosecond pulses with up to 25 mJ
- Linearly polarized beam
- Highly efficient diode pumping
- No high-voltage required
- Maintenance free



Specifications:

Optical Parameters	
Wavelength Range	2810 nm
Average Output Power (max)	5 W
Pulse Energy (max)	25mJ (@100 Hz)
Pulse Repetition Rate	500 Hz
Pulse Duration (FWHM)	< 100 ns
Polarization	Linear
Average Current (max)	10 A
Mode of Operation	Pulsed
Beam Quality	M2 < 10
Beam Diameter	2.5 mm
Beam Shape (focus)	top hat like
Cooling Requirements	
Coolant	Distilled water with Algaecide and Corrosion Inhibitor
Coolant Temperature	20 to 25 °C
Coolant Flow Rate	≥ 4 lpm
Coolant Pressure	(2 - 5) bar
Required Cooling Power	≥ 780 W @ 25 °C Environment Temperature
Electrical Parameters	
Diode Forward Voltage	~ 25 V
Diode Forward Current	max 200 A Pulsed
Average Power Consumption (max)	< 650 W
max Ripple / Overshoot	< 5 %
Mechanical Dimensions	
W x D x H	300 x 120 x 75 mm
Weight	5.0 kg
Emission Height	47.5 mm

4. High Power Er: YAG Module

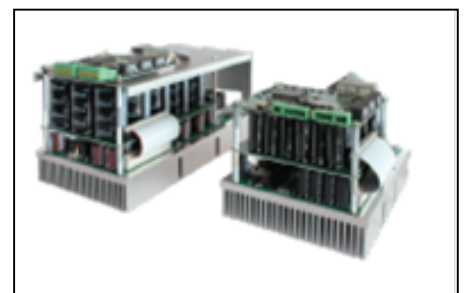
- Compact monolithic laser systems
- Highly efficient diode pumping
- Fiber-coupled versions available
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- Process variability



Optical Parameters	
Wavelength	2940 nm
Average Output Power (max)	80 W
Pulse Energy (max)	3.5J
Pulse Repetition Rate	Up to 1kHz
Pulse Duration	(40-100) μ s
Average Current (max)	7.5 A
Mode of Operation	Pulsed
Efficiency (optical-optical)	> 10%
Beam Shape (focus)	top hat like
Free Beam Quality	M2 < 50
Free Beam Diameter	1.6 mm
Free Divergence (half angle)	<50mrad
Cooling Requirements	
Coolant	Distilled water with Algaecide and Corrosion Inhibitor
Coolant Temperature	20 to 25 °C
Coolant Flow Rate	\geq 6 lpm
Coolant Pressure	(3 - 5) bar
Required Cooling Power	\geq 780 W @ 25 °C Environment Temperature
Electrical Parameters	
Diode Forward Voltage	\sim 120 V
Diode Forward Current	300 A Pulsed
Average Power Consumption (max)	< 1000 W
Mechanical Dimensions	
Dimension (LxWxH)	(95 x 50 x 60) mm ³
Weight	1kg
Emission Height	38.1 mm

Laser Diode Drivers

The LDD is an economic QCW laser diode driver module designed to provide high current pulses to drive Sintec modules in various applications. It delivers output currents up to 300 A and pulse widths variable from 50 up to 1000 (1) μ s operation. Up to 1000 W average output power is available with the supplied heatsink and forced air flow. Several safety features are integrated to protect both laser diode and driver.



	STP-DPM-100 (Er: YAG)
Laser Diode Driver	LDD-140300
Output Current	up to 300 A
Rise Time (10 - 90%)	< 20 μ s
Mechanical Dimensions (W x D x H)	300 x 200 x 120 mm
Additional Features	Safety circuit and communication interface

Test and Evaluate

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feasibility. The test systems are delivered with your requested laser source, a laser control system and a cooling system for laboratory use only. Please contact us for more information on rental or purchase conditions: sales@sintec.sg

Sintec Applications

Medical:

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STO Series DPSS Diode Laser Modules

1. STO Series CW 1064nm Diode Laser Pump Modules & Drivers



The work mode of gain modules is CW or QCW. The QCW module also includes conduction cooling module and water cooling module. STO series CW module maximum power is 450W. Much powerful module also can be customized upon request. Typical applications are laser amplifiers for nanosecond and picosecond MOPA lasers, gain modules for unstable oscillator resonators, CW pumped, 532nm, ns q-switched lasers, and LIDAR lasers.

Applications:

- Metal plate laser cutting, up to 12mm
- Metal & non-metal marking & engraving
- Metal & plastic welding, laser cleaning
- PCB, ceramic and solar cell engraving % cutting
- Lab & medical applications

Definition of Part Numbers: STO-XX-C-AxBB-SS-HH

- XX: output average laser power
- C: the part models of bars such as H or E
- AxBB: dimension of the Nd:YAG rod. A is the diameter and BB is the length.
- SS: the structure of the water cooling block such as CX (side), XX (bottom), XB (bottom with plate) and XG (bottom with nozzle)
- HH: the height of the optical axis.

Part number	Output laser power W	Diode current A	Diode voltage V	YAG size mm	Optical height mm
STO-35-H-2*67-CX-40	35	22	<18	2*67	40
STO-50-H-3*67-CX-40	50	22	<18	3*67	40
STO-50-H-4*67-CX-40	50	22	<18	4*67	40
STO-75-H-3*78-CX-40	75	22	<24	3*78	40
STO-75-H-3*78-CX-45	75	22	<24	3*78	45
STO-75-E-3*78-CX-45	75	25	<24	3*78	45
STO-100-E-4*100-XX-50	100	25	<30	4*100	50
STO-100-E-5*76-XX-50	100	25	<30	5*76	50
STO-150-H-3*110-CX-50	150	22	<48	3*110	50
STO-200-E-5*100-XX-50	200	25	<50	5*100	50
STO-200-E-4*100-CX-50	200	25	<50	4*100	50
STO-300-E-5*124-XB-40	300	25	<70	5*124	40
STO-300-E-5*124-XG-50	300	25	<70	5*124	50
STO-400-E-5*148-XG-50	400	25	<90	5*148	50
STO-450-E-5*160-XG-50	450	25	<100	5*160	50

Note: The typical Nd:YAG doping for STO series CW DPSS laser module is 0.6% and other doping levels (0.6%-1.1%) can be customized. The output power is measured with regular 300mm cavity length with flat-flat or concaved-flat resonator. The expected life time is 10,000 hours and the warranty is 12 months from the date of delivery.

STO Series, CW Laser Diode Power Supply (Diode Driver)

Model No.	Max Voltage	Max Current	For Laser Modules
STO-520	24V	22A	STO-35, STO-50-H, STO-75-H
STO-720	24V	30A	STO-50-E, STO-75-E
STO-920	36V	30A	STO-100, STO-120
STO-600S	12V	50A	STO-VSCW-MI-X-XX
STO-LDD-40-30	40V	30A	STO-150
STO-LDD-50-30	50V	30A	STO-200
STO-LDD-70-25	70V	30A	STO-300
STO-LDD-100-30	100V	30A	STO-400, STO-500
STO-LDD-140-28	140V	28A	For laser cutting head

2. STO Series QCW/Pulsed Diode Laser Pump Modules



Applications:

- Direct industry applications
- As laser oscillator or laser seed
- As laser amplifiers
- To get high peak power with Q-switch
- Other lab & medical applications
- High repetition rate laser rangefinder
- High pulse energy military applications

QCW module has two series:

- STO-GQ series QCW module output energies range from 50mJ to <1J per pulse.
- STO-JQ series QCW module output energies range from 1J to <8J per pulse.

All laser modules are available with rod sizes from 2 to 15mm in diameter, both CW and QCW pumped, and standard offerings of YAG and YLF. And higher laser power and larger rod size and material can be customized upon request. Typical applications are laser amplifiers for nanosecond and picosecond MOPA lasers, gain modules for unstable oscillator resonators, CW pumped, 532nm, ns q-switched lasers, and LIDAR lasers.

(1) mJ Level Diode Laser Pump Modules

Model No.	Nd:YAG(mm)	Pumping Power(808nm)	Pulse Energy (200us)	Current(A)	Voltage(V)
STO-GQ9	Φ2-4	900W	>30-40mJ	110	18
STO-GQ12	Φ2-4	1200W	>40-50mJ	110	24
STO-GQ15	Φ2-4	1500W	>60-70mJ	110	30
STO-GQ30	Φ3-5	3KW	>120-140mJ	110	60
STO-GQ50	Φ3-5	5KW	>200-250mJ	110	100
STO-GQ50B	Φ3-5	5KW	>200-250mJ	200	50
STO-GQ100B	Φ4-8	10KW	>400-500mJ	200	100
STO-GQ200B	Φ4-8	20KW	>800-1000mJ	200	200

Remark: (1) Customized stack/planar array side/end-pumping QCW modules in various shapes such as arc and annular available upon request. (2) The doping level of Nd:YAG can be customized from 0.6% to 1.1%. Pulse energy listed above is measured at 200 μs/100Hz at 1064nm. Typical QCW modules are designed with duty cycle ≤5% and higher duty cycle modules must be customized. Small signal gain may be various according to different designs.

(2) Joule Level QCW/Pulsed DPSS Laser Modules

Model No.	Nd:YAG Dia.	Pulse Energy	Operation Voltage	Peak Current
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STO-MQ1	5-10mm	>1J	250V	200A
STO-MQ2	5-10mm	>2J	500V	200A
STO-MQ3	5-10mm	>3J	750V	200A
STO-MQ5	5-10mm	>5J	1250V	200A
STO-MQ10	5-10mm	>10J	2500V	200A

Remark: the above QCW modules are usually driven by a group of QCW Laser Diode Drivers synchronously and the operation voltage is the sum of these voltages. Pulse energy listed above is measured at 200µs/20Hz at 1064nm. Typical QCW modules are designed with duty circle ≤2%. Customized modules available upon request.

(3) Definition of Part Number: STO-TT-PW-CC-NN-PB-SS-AxBB

- TT: energy level such as GQ (mJ-level modules at 250us) and JQ (J-level modules at 250us)
- PW: total pumping peak power in W
- CC: cooling method such as W (water cooled) and C (conductive cooled)
- NN: number of bars
- PB: peak power per bar such as 100W or 200W
- SS: Structure of the modules such as H (linear array), A (arc) , C (circular). For example, H34 is linear array 3x4, 1P is one bar on each cell, 4A6 means there are 4arcs and there are 6 bars on each arc,
- AxBB: rod size. A is the diameter and BB is length in mm.

Part Number	Peak Pump Power (W)	Stored Energy (J)	Rod Size(MM)	Current(A)	Voltage(V)	Typical Duty circle
STO-GQ-1000-C-10-100E-2A5-6*43	1000	0.08	6*43	100	<20	2.00%
STO-GQ-2000-C-10-200E-2A5-6*43	2000		6*43	200	<20	2.00%
STO-GQ-1000-C-10-100E-2C5-3*45	1000		3*45	100	<20	2.00%
STO-GQ-1200-C-12-100E-H34-4*39	1200	0.096	4*39	100	<20	2.00%
STO-GQ-2000-C-10-200E-2C5-3*45	1000		3*45	200	<20	1.00%
STO-GQ-2400-C-24-100E-4A6-2*4*25	2400		2Pcs 4*25	100	<48	2.00%
STO-GQ-4800-C-24-200E-4A6-2*4*25	4800		2pcs 4*25	200	<48	1.00%
STO-GQ-5600-C-56-100E-ACM-4*76	5600		4*76	100	<112	1.00%
STO-GQ-11200-C-56-200E-ACM-4*76	11200	0.9	4*76	200	<112	0.50%
STO-GQ-900-W-9-100-H33*1P-3*67	900	0.072	3*67	100	<18	12.50%
STO-GQ-1200-W-12-100-H34*1P-3*78	1200	0.096	3*78	100	<24	12.50%
STO-GQ-1200-W-12-100-H34*1P-4*78	1200	0.096	4*78	100	<24	12.50%
STO-GQ-1800-W-9-200-H33*1P-2*67	1800	0.14	2*67	200	<18	2.00%
STO-GQ-1800-W-9-200-H33*1P-2.54*67	1800	0.14	2.54*67	200	<18	2.00%
STO-GQ-1800-W-9-200-H33*1P-3*67	1800	0.14	3*67	200	<18	2.00%
STO-GQ-2000-W-20-100-H54*1P-4*88	2000	0.16	4*88	100	<40	12.50%
STO-GQ-2000-W-20-100-H54*1P-5*88	2000	0.16	5*88	100	<40	12.50%
STO-GQ-2400-W-12-200-H34*1P-2*78	2400	0.2	2*78	200	<24	2.00%
STO-GQ-2400-W-12-200-H34*1P-2.5*78	2400	0.2	2*78	200	<24	2.00%
STO-GQ-2400-W-12-200-H34*1P-3*78	2400	0.2	2*78	200	<24	2.00%
STO-GQ-2500-W-25-100-H55*1P-4*100	2500	0.21	4*100	100	<50	12.50%
STO-GQ-3000-W-30-100-H56*1P-5*112	3000	0.21	5*112	100	<60	12.50%
STO-GQ-3000-W-15-200-H35*1P-3*88	3000	0.25	3*88	200	<30	2.00%
STO-GQ-3000-W-15-200-H35*1P-4*88	3000	0.25	4*88	200	<30	2.00%
STO-GQ-3600-W-18-200-H33*2P-2.54*67	3600	0.28	2.54*67	200	<36	1.00%
STO-GQ-3600-W-18-200-H33*2P-3*67	3600	0.28	3*67	200	<36	1.00%
STO-GQ-4000-W-20-200-H54*1P-4*88	4000	0.32	4*88	200	<40	2.00%
STO-GQ-4800-W-24-200-18-200-H34*2P-2.54*78	4800	0.32	2.54*78	200	<48	1.00%
STO-GQ-4800-W-24-200-18-200-H34*2P-3*78	4800	0.32	3*78	200	<48	1.00%
STO-GQ-5000-W-25-200-H55*1P-4*100	5000	0.5	4*100	200	<50	2.00%
STO-GQ-5000-W-50-100-H510*1P-5*160	5000W	0.5	5*160	100	<100	12.50%
STO-GQ-6000-W-30-200-H35*2P-3*88	6000	0.4	3*88	200	<60	1.00%
STO-GQ-6000-W-30-200-H35*2P-4*88	6000	0.5	4*88	200	<60	1.00%
STO-GQ-6000-W-30-200-H56*1P-4*112	6,000	0.5	4*112	200	<60	2.00%

STO-GQ-6000-W-30-200-H56*1P-5*112	6,000	0.5	5*112	200	<60	2.00%
STO-GQ-6000-W-30-200-H56*1P-6.35*112	6,000	0.5	6.35*112	200	<60	2.00%
STO-GQ-6000-W-30-200-H56*1P-7*112	6,000	0.5	7*112	200	<60	2.00%
STO-GQ-6000-W-30-200-H56*1P-8*112	6,000	0.5	8*112	200	<60	2.00%
STO-GQ-6000-W-63-100-H79*1P-7*148	6300W		7*148	100	<126	12.50%
STO-GQ-8000-W-40-200-H58*1P-5*136	8,000	0.7	5*136	200	<80	2.00%
STO-GQ-8000-W-40-200-H58*1P-6.35*136	8,000	0.7	6.35*136	200	<80	2.00%
STO-GQ-8000-W-40-200-H58*1P-7*136	8,000	0.7	7*136	200	<80	2.00%
STO-GQ-8000-W-40-200-H58*1P-8*136	8,000	0.7	8*136	200	<80	2.00%
STO-GQ-8000-W-40-200-H58*1P-9*136	8,000	0.7	9*136	200	<80	2.00%
STO-GQ-8000-W-40-200-H58*1P-10*136	8,000	0.7	10*136	200	<80	2.00%
STO-GQ-10000-W-50-200-H510*1P-5*160	10,000	0.8	5*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-6*160	10,000	0.8	6*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-7*160	10,000	0.8	7*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-8*160	10,000	0.8	8*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-9*160	10,000	0.8	9*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-10*160	10,000	0.8	10*160	200	<100	2.00%
STO-GQ-10000-W-50-200-H510*1P-12*160	10,000	0.8	12*160	200	<100	2.00%
STO-JQ-12000-W-60-200-H56*2P-4*112	12,000	1	4*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H56*2P-5*112	12,000	1	5*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-5*184	12,000	1	5*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-6*112	12,000	1	6*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-6*184	12,000	1	6*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-7*112	12,000	1	7*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-7*184	12,000	1	7*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-8*112	12,000	1	8*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-8*184	12,000	1	8*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-9*112	12,000	1	9*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-9*184	12,000	1	9*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-10*112	12,000	1	10*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-10*184	12,000	1	10*184	200	<120	2.00%
STO-JQ-12000-W-60-200-H56*2P-12*112	12,000	1	12*112	200	<120	1.00%
STO-JQ-12000-W-60-200-H512*1P-12*184	12,000	1	12*184	200	<120	2.00%
STO-JQ-15000-W-150-100-C1510-8*154	15000		8*154	100	<300	5.00%
STO-JQ-16000-W-80-200-H58*2P-5*136	16,000	1.3	5*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-6*136	16,000	1.3	6*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-7*136	16,000	1.3	7*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-8*136	16,000	1.3	8*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-9*136	16,000	1.3	9*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-10*136	16,000	1.3	10*136	200	<160	1.00%
STO-JQ-16000-W-80-200-H58*2P-12*136	16,000	1.3	12*136	200	<160	1.00%
STO-JQ-16800-W-84-200-80-200-H76*2P-15*112	16,800	1.4	15*112	200	<168	1.00%
STO-JQ-18000-W-90-200-H56*3P-5*112	18,000	1.5	5*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-6*112	18,000	1.5	6*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-7*112	18,000	1.5	7*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-8*112	18,000	1.5	8*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-9*112	18,000	1.5	9*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-10*112	18,000	1.5	10*112	200	<180	0.50%
STO-JQ-18000-W-90-200-H56*3P-12*112	18,000	1.5	12*112	200	<180	0.50%
STO-JQ-20000-W-200-100-C2010-10*154	20000W		10*154	100	<400	4.00%
STO-JQ-20000-W-100-200-H510*2P-5*160	20,000	1.7	5*160	200	<200	1.00%
STO-JQ-20000-W-100-200-H510*2P-6*160	20,000	1.7	6*160	200	<200	1.00%
STO-JQ-20000-W-100-200-H510*2P-7*160	20,000	1.7	7*160	200	<200	1.00%

STO-JQ-20000-W-100-200-H510*2P-8*160	20,000	1.7	5*160	200	<200	1.00%
STO-JQ-20000-W-100-200-H510*2P-9*160	20,000	1.7	5*160	200	<200	1.00%
STO-JQ-20000-W-100-200-H510*2P-10*160	20,000	1.7	5*160	200	<200	1.00%
STO-JQ-20000-W-100-200-H510*2P-12*160	20,000	1.7	5*160	200	<200	1.00%
STO-JQ-22400-W-112-200-H78*2P-12*136	22,400	1.8	15*136	200	<224	1.00%
STO-JQ-24000-W-120-200-H512*2P-5*184	24,000	2	5*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H58*3P-6*136	24,000	2	6*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-6*184	24,000	2	6*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H58*3P-7*136	24,000	2	7*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-7*184	24,000	2	7*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H56*4P-8*112	24,000	2	8*112	200	<240	0.50%
STO-JQ-24000-W-120-200-H58*3P-8*136	24,000	2	8*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-8*184	24,000	2	8*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H56*4P-9*112	24,000	2	9*112	200	<240	0.50%
STO-JQ-24000-W-120-200-H58*3P-9*136	24,000	2	9*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-9*184	24,000	2	9*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H56*4P-10*112	24,000	2	10*112	200	<240	0.50%
STO-JQ-24000-W-120-200-H58*3P-10*136	24,000	2	10*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-10*184	24,000	2	10*184	200	<240	1.00%
STO-JQ-24000-W-120-200-H56*4P-12*112	24,000	2	12*112	200	<240	0.50%
STO-JQ-24000-W-120-200-H58*3P-12*136	24,000	2	12*136	200	<240	0.50%
STO-JQ-24000-W-120-200-H512*2P-12*184	24,000	2	12*184	200	<240	1.00%
STO-JQ-25200-W-126-200-H76*3P-15*112	25,200	2.1	15*112	200	<252	0.50%
STO-JQ-25200-W-126-200-H76*3P-18*112	25,200	2.1	18*112	200	<252	0.50%
STO-JQ-28000-W-140-200-126-200-H78*2P-15*136	28,000	2.3	15*136	200	<280	1.00%
STO-JQ-28000-W-140-200-H78*2P-18*136	28,000	2.3	18*136	200	<280	1.00%
STO-JQ-30000-W-150-200-H510*3P-7*136	30,000	2.5	7*160	200	<300	0.50%
STO-JQ-30000-W-150-200-H510*3P-8*136	30,000	2.5	8*160	200	<300	0.50%
STO-JQ-30000-W-150-200-H510*3P-9*136	30,000	2.5	9*160	200	<300	0.50%
STO-JQ-30000-W-150-200-H510*3P-10*136	30,000	2.5	10*160	200	<300	0.50%
STO-JQ-30000-W-150-200-H510*3P-12*136	30,000	2.5	12*160	200	<300	0.50%
STO-JQ-32000-W-160-200-H58*4P-8*136	32,000	2.6	8*136	200	<320	0.50%
STO-JQ-32000-W-160-200-H58*4P-9*136	32,000	2.6	9*136	200	<320	0.50%
STO-JQ-32000-W-160-200-H58*4P-10*136	32,000	2.6	10*136	200	<320	0.50%
STO-JQ-32000-W-160-200-H58*4P-12*136	32,000	2.6	12*136	200	<320	0.50%
STO-JQ-33600-W-168-200-H76*4P-15*112	33,600	2.8	15*112	200	<336	
STO-JQ-33600-W-168-200-H78*3P-15*112	33,600	2.8	15*136	200	<336	
STO-JQ-33600-W-168-200-H712*2P-15*112	33,600	2.8	15*184	200	<336	
STO-JQ-33600-W-168-200-H76*4P-18*112	33,600	2.8	18*112	200	<336	
STO-JQ-33600-W-168-200-H78*3P-18*112	33,600	2.8	18*136	200	<336	
STO-JQ-33600-W-168-200-H712*2P-18*112	33,600	2.8	18*184	200	<336	
STO-JQ-36000-W-180-200-H512*3P-8*188	36,000	3	8*184	200	<360	
STO-JQ-36000-W-180-200-H512*3P-9*188	36,000	3	9*184	200	<360	
STO-JQ-36000-W-180-200-H512*3P-10*188	36,000	3	10*184	200	<360	
STO-JQ-36000-W-180-200-H512*3P-12*188	36,000	3	12*184	200	<360	

STO-JQ-10000-W-200-200-H510*4P-9*160	40,000	3.3	9*160	200	<400	
STO-JQ-10000-W-200-200-H510*4P-10*160	40,000	3.3	10*160	200	<400	
STO-JQ-10000-W-200-200-H510*4P-12*160	40,000	3.3	12*160	200	<400	
STO-JQ-42000-W-210-200-H710*3P-15*160	42,000	3.5	15*160	200	<420	
STO-JQ-42000-W-210-200-H710*3P-18*160	42,000	3.5	18*160	200	<420	
STO-JQ-44800-W-224-200-H710*4P-15*148	44,800	3.7	15*136	200	<448	
STO-JQ-44800-W-224-200-H710*4P-18*148	44,800	3.7	18*136	200	<448	
STO-JQ-48000-W-240-200-H512*4P-10*184	48,000	4	10*184	200	<480	
STO-JQ-48000-W-240-200-H512*4P-12*184	48,000	4	12*184	200	<480	
STO-JQ-50400-W-252-200-H712*3P-15*184	50,400	4.2	15*184	200	<504	
STO-JQ-50400-W-252-200-H712*3P-18*184	50,400	4.2	18*184	200	<504	
STO-JQ-56000W-280-200-H710*4P-15*160	56,000	4.6	15*160	200	<560	
STO-JQ-56000W-280-200-H710*4P-18*160	56,000	4.6	18*160	200	<560	
STO-JQ-67200-W-336-200-H712*4P-18*184	67,200	5.5	18*184	200	<672	
STO-JQ-97200-W-540-200-H912*5P-25*184	97,200	8	25*184	200	<1080	

3. Services and Maintenance of Other Brands' Diode Modules

We are also able to provide lasers diodes repair and refurbishment services for various laser pump modules from various manufacturers all over the world. Our experienced engineers are able to repair them and provide after-sale services, including:

- Rofin's Diode Pumped Laser Heads
- LEE Laser's Diode Pumped Laser Heads
- FOBA's Diode Pumped Laser Heads
- Northrop Grumman (Cutting Edge Optronics, CEO Laser)'s laser heads, including RB, RE and other series.
- Almalaser Soprano & ICE diode laser hair removal handle piece
- Syneron Elaser & Elase diode laser hair removal handle piece
- Jenoptik's laser diode stack
- Dilas's laser diode stack
- Other DPSS laser heads from NEC etc

Please contact us for more information. Please note: Northrop Grumman, Cutting Edge Optronics, CEO Laser, Rofin, FOBA, Han's Laser, Jenoptik, Dilas, NEC, Almalasers, Soprano, Soprano ICE, Elaser, Elase are their trade marks which belong to the companies above.