

■ Features

- Average output power: 30 W
- Independent control of pulse width and pulse repetition rate
- Linearly polarization
- High beam quality
- Fiber out type

■ Applications

- Marking (surface modification)
- Thin film removal
- Trimming
- Cutting
- Drilling
- Soldering
- Plastic welding
- Laser chemical vapor deposition



■ Outline

This is an embedded only nanosecond pulsed fiber laser of linear polarization type with high reliability. Individual control of pulse width and pulse repetition rate is available, so machining condition for various applications can be set by the customer. In addition, output waveform can be set as desired when shipped from the factory.

■ General ratings

Parameter	Specification	Unit
Operating temperature *1	+15 to +35	°C
Storage temperature *1*2	+5 to +50	°C
Operating relative humidity *1	30 to 70	%
Storage relative humidity *1*2	30 to 85	%
Warmup time	5	min

*1 No condensation (To prevent condensation, allow to reach room temperature for at least 4 hours without unpacking.)

*2 Recommended storage condition: Temperature: +10 °C to +30 °C, Humidity: 30 % to 50 % (No excessive external force, vibration, or shock to the enclosure.)

■ Specifications

Parameter	Min.	Typ.	Max.	Unit
Wavelength	1062	1064	1066	nm
Polarization	—	Linear	—	—
Polarization direction	—	Vertical	—	—
Extinction ratio	—	20	—	dB
Beam quality (M ²)	—	—	1.6	—
Average output power *1	—	—	30	W
Setting pulse width *2	200	—	700	ns
Repetition rate *2	80	—	200	kHz
Pulse energy *3	—	—	375	μJ
Pulse train rise / fall time *4	—	150	—	μs
Beam diameter 1/e ² @ 60 cm from output	1	—	3	mm
Weight	—	15	—	kg

*1 The maximum average output power may be lower than 30 W depending on pulse width and pulse repetition rate used.

*2 If you wish to have pulse width and pulse repetition rate operate at a value other than specification, please contact our sales representative.

*3 At 80 kHz. Average output power / Pulse repetition rate

*4 Time taken to reach 10 % ⇔ 90 % of the steady state value. Adjusted at the time of shipment so that overshoot does not occur at the maximum output. Adjusting the start delay allows optimization for each condition used. (output power, pulse width, repetition rate)

* Evaluated condition: When not specified, set at an ambient temperature of 22.5 °C ± 2.5 °C, repetition rate of 200 kHz, pulse width of 700 ns, and average output power of 30 W.

Pulsed Fiber Laser L15187

Figure 1: Output waveform (example)

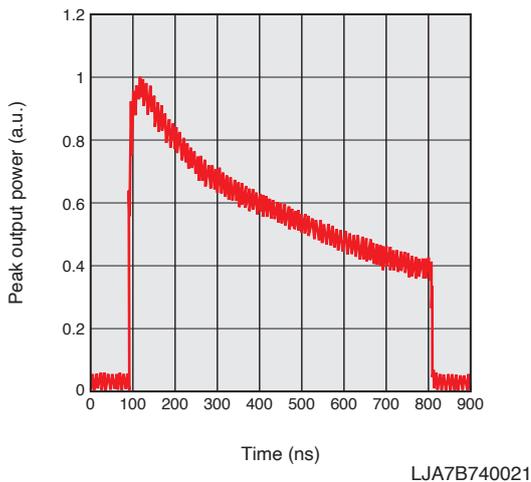


Figure 2: Square output waveform with customizing (example)

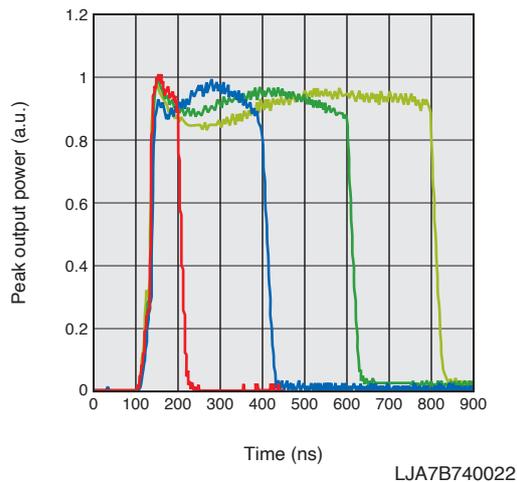


Figure 3: Beam profile (at 30 W output power)

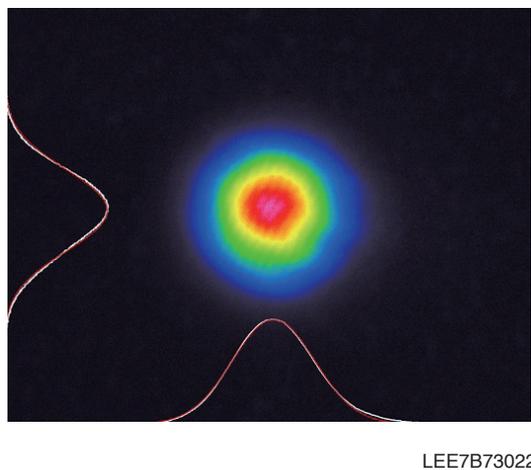
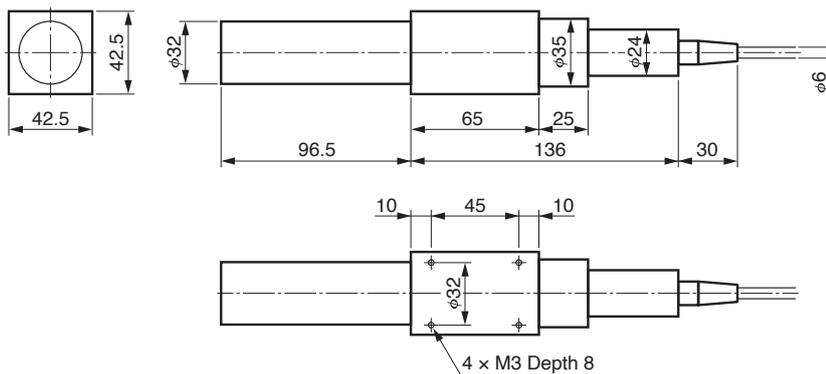
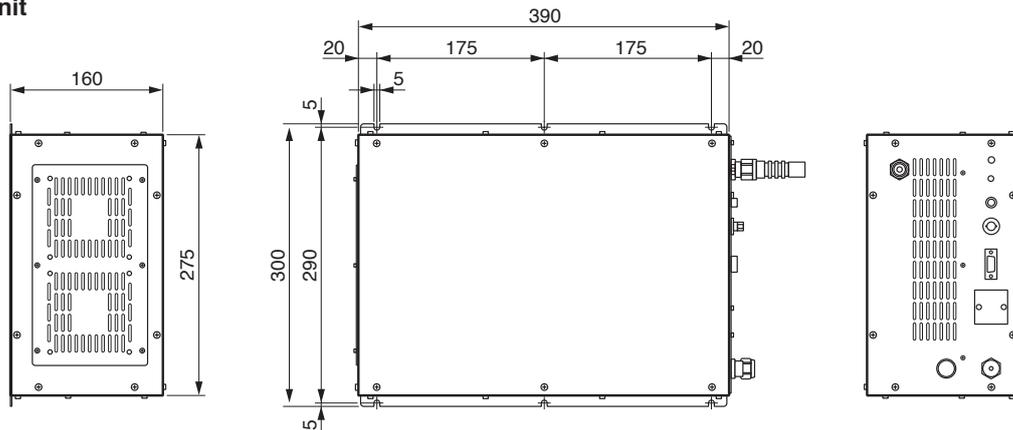


Figure 4: Dimensions (unit: mm)

●Output section



●Laser main unit



Pulsed Fiber Laser L15187

Danger (Class 4 Laser)

Invisible laser radiation: Avoid eye or skin exposure to direct or scattered radiation

●Laser beam emitted from this product is an invisible laser beam that cannot be seen by the naked eye.

This product is a classifying of laser products by IEC 60825-1 and falls under class 4 laser.

To use this product safely, follow IEC 60825-1 regulations, etc.

Example



Warning label



Class 4 laser product

Explanatory label

* This product is an OEM product for system integration only. This product as stand-alone units do not fully comply with safety regulations IEC 60825-1:2014. Direct and indirect eye contact with the output beam from the laser will cause serious damage and possible blindness. It is good procedure to operate the laser in a room with controlled and restricted access. To comply with the safety regulations according to IEC 60825:2014 the integrator must.

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