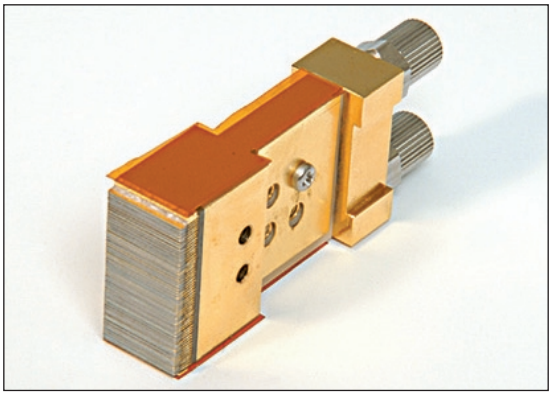
HAMAMATSU

PHOTON IS OUR BUSINESS

High-Power QCW Laser Diode Stack Module
L11396 Series

■FEATURES

- ●High optical power: QCW 150 W/bar
- ●High stability
- ●Long life
- ●Compact



■APPLICATIONS

- ●Measuring instrument
- ●Pumping source for solid state laser
- ●IR illumination for surveillance
- ●Heat treatment

■SPECIFICATIONS

QCW operation (Max. duty ratio is 1 % (200 μs, 50 Hz)) [Temperature of coolant (IN): 25 °C, Flow rate : 1.0 L/min]

Parameter		Symbol	Conditions	Value			Unit
				L11396-50P808	L11396-50P940	L11396-50P980	
Peak emission wavelength		λ_p	Φ_{ep} = 5 kW, 7.5 kW	808	940	980	nm
Tolerance of λp		—	Φ_{ep} = 5 kW, 7.5 kW	±5			nm
Spectral radiation bandwidth		$\Delta\lambda$	FWHM	4			nm
Radiant output power		Φ_{ep}	Duty to 1 % I_f = 105 A	5	—	—	kW
			Duty to 1 % I_f = 105 A	—	7.5	7.5	
Forward voltage		V_f		<100			V
Beam spread angle	Parallel (slow)	$\theta_{//}$	FWHM	<10			° (degree)
	Vertical (fast)	$\theta_{\perp}$		<40			
Lasing threshold current		I_{th}	Duty to 1 %	18	19	19	A
Expected life time		—	t_w = 200 μs	1.0×10^9			shot

* Max. No. of Stack 75
* Stack pitch 0.4 mm

■COOLING CONDITIONS AND SURROUNDINGS

Parameter	Description / Value	Unit
Coolant	Tap water	—
Temperature of coolant IN	+15 to +30	°C
Pressure of coolant (heatsink)	0.08 to 0.28	MPa
Flow rate (total)	1.0 to 1.8	L/min
Operating ambient temperature	+15 to +35	°C
Storage temperature	-20 to +40	°C

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Figure 1: Radiant output power vs. Forward current (typ.)

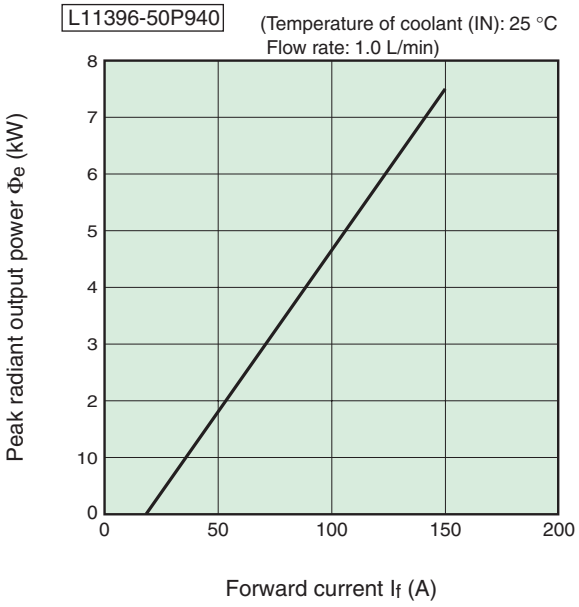


Figure 2: Typical emission spectrum

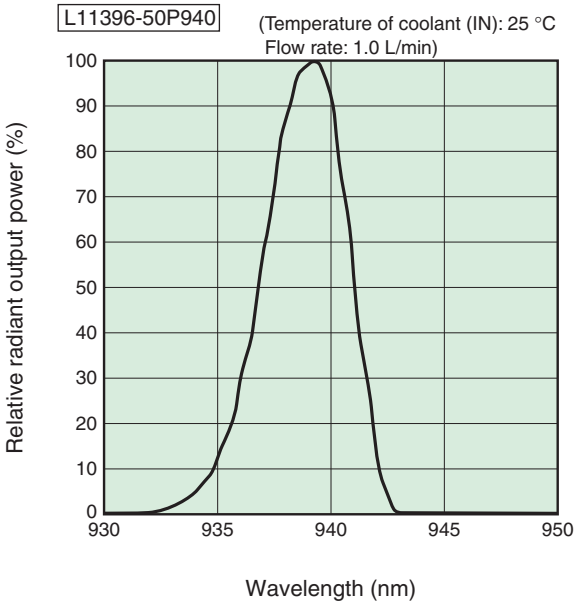
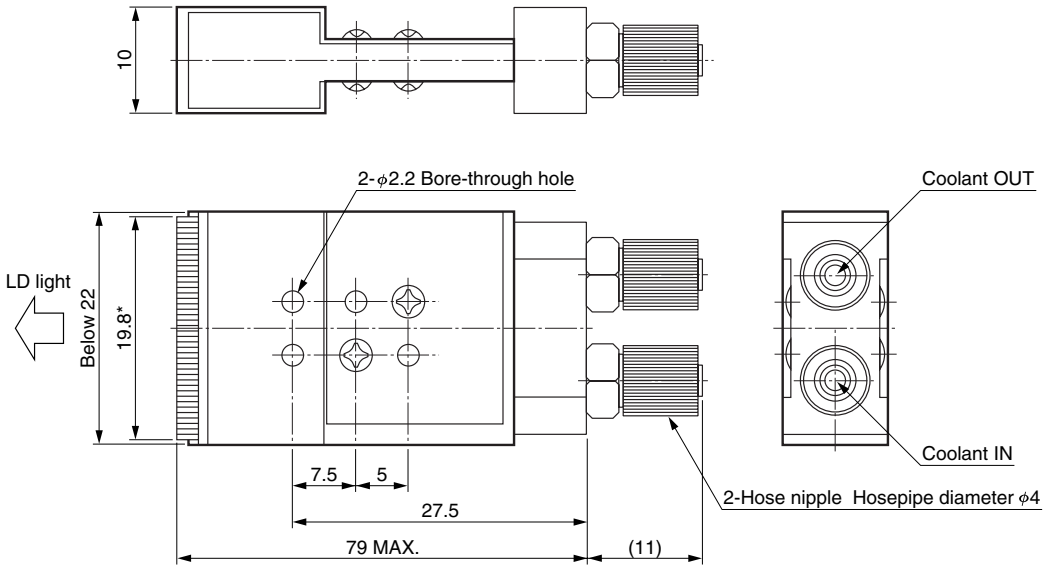


Figure 3: Dimensional outline (unit: mm)



* Emitting point @50 ST
(Emitting area width will vary in accordance with the number of bar stack.)

●When using laser products, classify the laser products in accordance with IEC 60825-1. Take adequate measures for classificatoin . Observe the latest regulations and standards of each country and region.

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