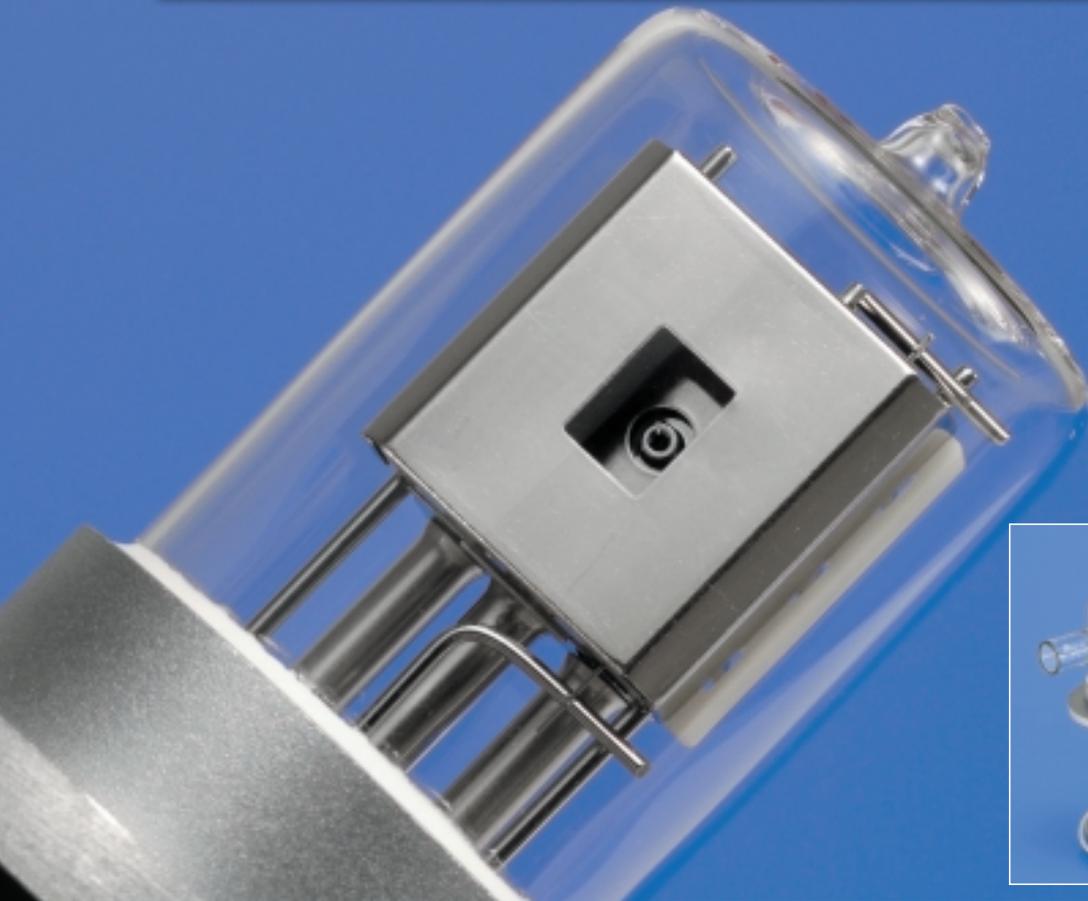


# X2D2 LAMP

HIGH BRIGHTNESS DEUTERIUM LAMP



## HIGH BRIGHTNESS

■ Arc Distribution

**2 times higher  
than conventional type  
(Aperture size: 0.5 mm)**



**X2D2 Lamp**



Conventional type (L2D2 Lamp)

**HAMAMATSU**

# X2D2 LAMP

## Over View

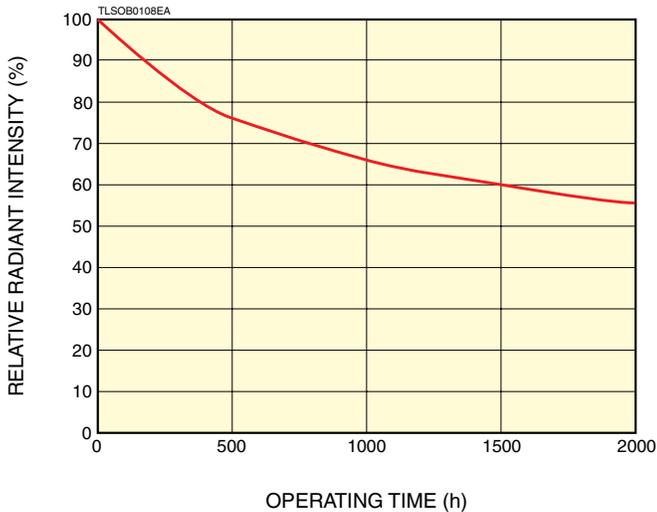
The X2D2 lamp (brightness of new deuterium lamp) is two times higher than conventional deuterium lamp ( $\phi 0.5$  mm aperture type). It can realize high resolution and high throughput of the instruments.

## Applications

- HPLC (High Performance Liquid Chromatography)
- UV-VIS Spectrophotometer
- CE (Capillary Electrophoresis)
- Film Thickness Measurement
- SO<sub>x</sub>/NO<sub>x</sub> Analyzer
- Environmental Analysis
- Photoionization Light Source
- Excitation Light Source
- Semiconductor Inspection

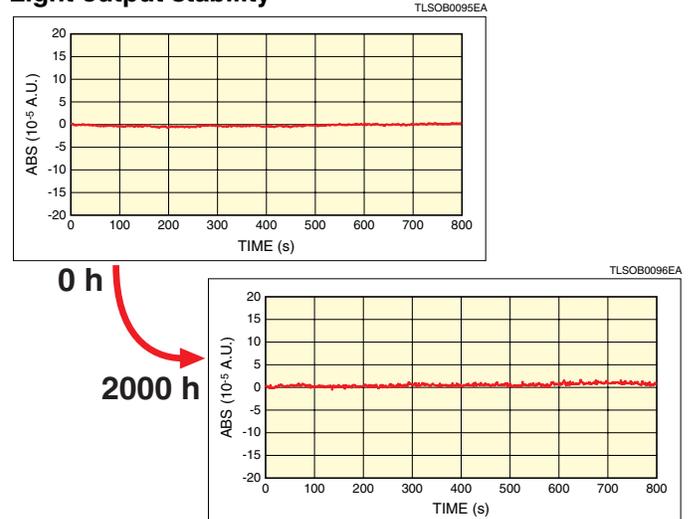
## Long life: 2000 hours

### Life Characteristics (at 230 nm)



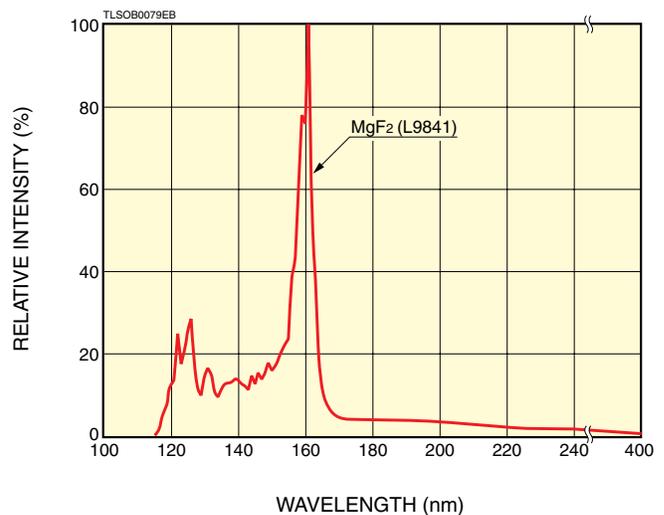
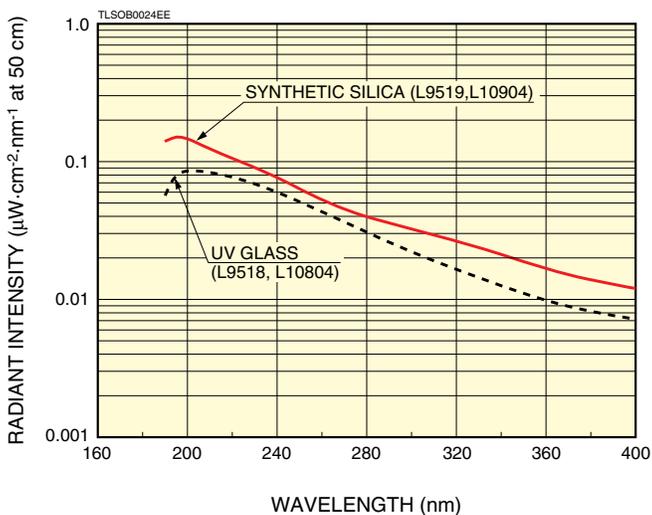
## High stability: Fluctuation 0.005 % (p-p) Typ. (Equivalent to $2 \times 10^{-5}$ A.U.)

### Light output stability



## High UV intensity

### Spectral distribution



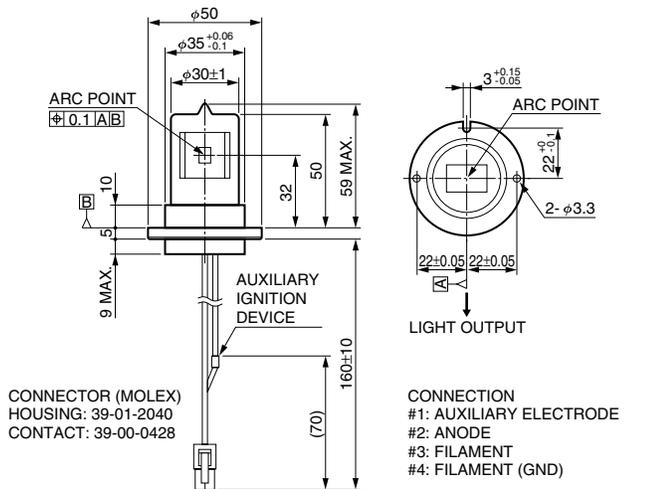
# Specifications

Type No.	L9518	L10804	L9519	L10904	L9841	Unit
Type	Standard	See-through	Standard	See-through	Standard	—
Window Material	UV glass		Synthetic silica		MgF <sub>2</sub>	—
Spectral Distribution	185 to 400		160 to 400		115 to 400	nm
Aperture Diameter			0.5			mm
Output Stability at 230 nm	Drift Max.		±0.3			%/h
	Fluctuation (p-p) Typ.		0.005			%
Guaranteed Life at 230 nm *			2000			h
Discharge Starting Voltage Max.			400			V dc
Anode Current			300 ± 30			mA dc
Tube Voltage Typ.	90		85			V dc
Filament Ratings	Warm-up	Voltage	2.5 ± 0.25			V dc
		Current Typ.	4			A dc
		Time Min.	20			s
	Operating	Voltage	1.7 ± 0.2			V dc
		Current Typ.	3.3			A dc
Operating Ambient Temperature			+10 to +50			°C
Weight	60		65			g

\* Lamp life end is defined as the point when light output at 230 nm falls to 50 % of its initial value or when output fluctuation exceeds 0.05 % (p-p).

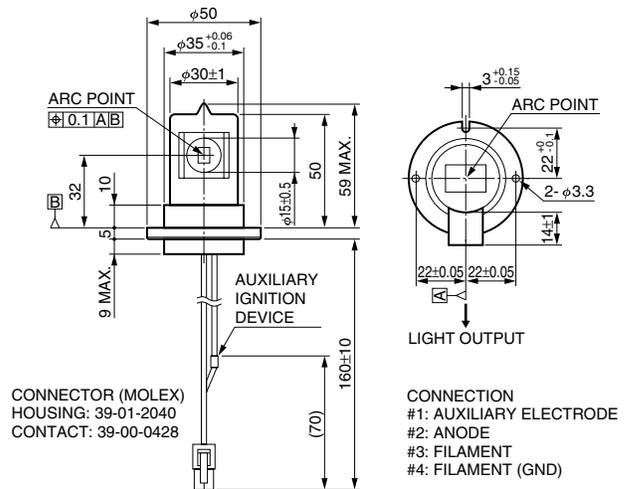
## Dimensional outline (Unit:mm)

**L9518, L10804**



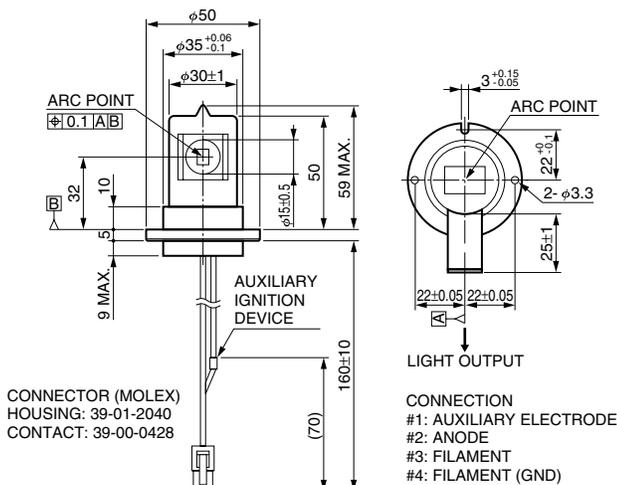
TLSOA0105EB

**L9519, L10904**



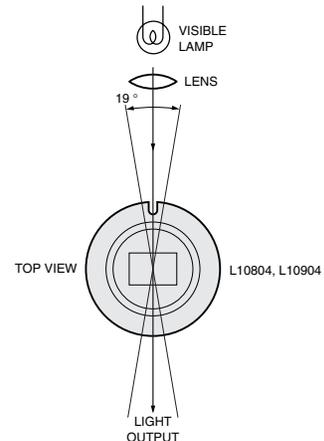
TLSOA0106EB

**L9841**



TLSOA0107EB

### An example for optics of See-through type



TLSOC0053EA

# RELATED PRODUCTS

## POWER SUPPLY

Applications using X2D2 lamps require a very stable light output, so using a Hamamatsu dedicated power supply is recommended to operate these lamps. Our dedicated power supplies use a constant-current circuit and constant-voltage circuit that deliver stable and reliable lamp ignition. Two types of power supplies are available: AC input (100 V to 240 V) type C9559 and 24 V dc input type M9521. Please select the power supply that matches your application.



Left: C9559, Right: M9521

## SPECIFICATIONS (Characteristics are measured at 25 °C ± 1 °C after 30 min of warming up.)

Parameter		C9559	M9521	Unit	
Input	Input Voltage	100 V ac to 240 V ac (100 V/200 V Auto Switching) 50 Hz / 60 Hz	24 V dc ± 2.4 V dc	—	
	Input Current (Max.)	1.4	3	A	
Output	Output Voltage	With Load (Typ.)	85 / 90	V dc	
		Without Load (Min.)	200	V dc	
	Output Current	300 ± 30		mA dc	
	Current Fluctuation (p-p) (Typ.)	0.005		%	
	Current Drift (Typ.)	±0.02		%/h	
	Filament Ratings	Warm-up	Voltage	2.5 ± 0.2	V dc
			Current (Typ.)	4	A dc
		Operation	Time	Approx. 20	s
			Voltage	1.7 ± 0.2	V dc
		Current (Typ.)	3.3	A dc	
	Trigger Voltage (Typ.)	550		V	
Cooling Method		—	0.3 m <sup>3</sup> /min of Forced Air Cooling	—	
Operating Ambient Temperature		0 to +40		°C	
Storage Temperature		-10 to +60		°C	
Operating and Storage Humidity		Below 80 (No condensation)		%	
Dimensions (W × H × D)		110 × 145 × 310	170 × 35 × 110 (Approx.)	mm	
Weight		Approx. 2.8	Approx. 0.265	kg	
Conformance Standards	CE	Yes	Yes	—	
	UL (File No. E249677)	No	Yes	—	
External Control (LAMP ON/OFF, LAMP STATUS SIGNAL)		Yes	Yes	—	

## LAMP HOUSING

These lamp housings are designed for Hamamatsu X2D2 lamps with a mounting flange. Despite being low cost and compact, these lamp housings also function as efficient heat radiator housings to allow stable X2D2 lamp operation. The window and mounting surface of these lamp housings are finish-machined and have tapped holes, making it easier to install them in equipment. These lamp housings are ideal for designing photometric equipment that uses X2D2 lamps.

E9522-50: For L9518

E9558-50: For L9519

\* Custom lamp housings for see-through type lamps (L10804 and L10904) are also available.



Left: E9522-50, Right: E9558-50

PATENT: USA; 2, JAPAN; 2 PATENT PENDING: USA; 2, JAPAN; 3, EUROPE; 4

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