

# LIGHT SOURCE

# S2D2 MODULE

## L10671D, L10671P, L10671H

### OVERVIEW

The S2D2 compact deuterium lamp is a UV point light source with a drastically reduced size compared to ordinary deuterium lamps. Despite a compact body, the S2D2 lamp has the same high stability as conventional deuterium lamps and a unique electrode structure that delivers high luminance.

This compact size of the S2D2 module makes it easy to install in all types of equipment. The dedicated lamp housing and power supply are designed to extract maximum performance from the S2D2 lamp.

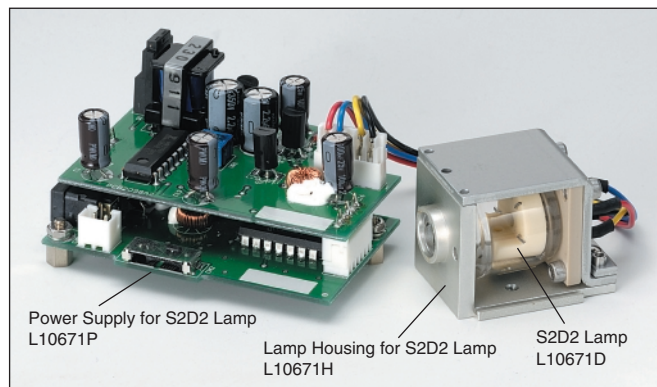
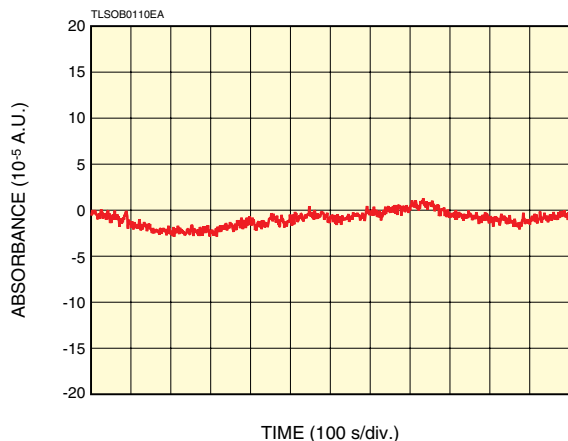
### FEATURES

- World\* smallest deuterium lamp as point light source
- Easy installation due to compact size.
- High Stability: Fluctuation 0.005 % p-p (Typ.) (Equivalent to  $2 \times 10^{-5}$  A.U.)
- External Control
- High-output continuous spectrum in UV region
- Low power consumption

\* By our research (as of March 2010)

### LIGHT OUTPUT STABILITY

● at 230 nm

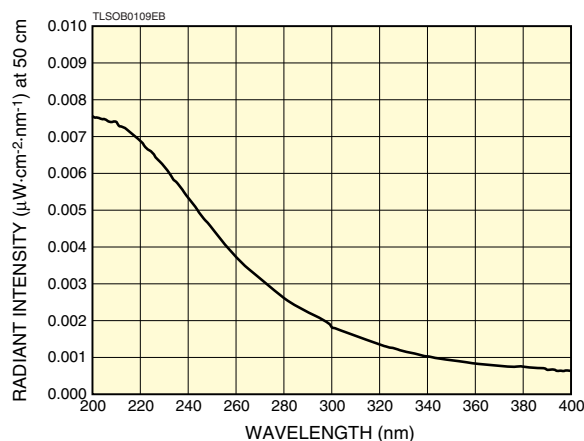


\* Lamp housing is supplied with attached cover.

### APPLICATIONS

- Spectrophotometry
- Environmental Measurement
- Absorption Spectrum Measurement
- Micro Titer Plate Reader
- Pharmaceutical Testing
- High-Performance Liquid Chromatography
- Film Thickness Measurement
- Biological Measurement
- Semiconductor Inspection
- Optical Component Inspection

### SPECTRAL DISTRIBUTION (TYPICAL DATA)



# SPECIFICATIONS

## S2D2 Lamp (L10671D)

Parameter			Description / Value	Unit
Window Material			UV glass	—
Spectral Distribution			185 to 400	nm
Aperture Diameter			1.0	mm
Output Stability at 230 nm	Drift	Max.	±0.25	%/h
	Fluctuation (p-p)	Typ.	0.005	%
Guaranteed Life at 230 nm <sup>①</sup>			1500	h
Weight			8.6	g
Bulb Wall Temperature <sup>②</sup>		Max.	185	°C
Operation Ambient Temperature <sup>③</sup>			0 to +40	°C
Storage Temperature			-10 to +60	°C
Operation Ambient Humidity			Below 80 % (no condensation)	—
Storage Humidity			Below 85 % (no condensation)	—

①Life end is defined as the time when the light output intensity at 230 nm falls to 50 % of its initial value or when output fluctuations exceed 0.05 % (p-p).

②Point A in L10671D drawing    ③Ambient temperature in open area

## Power Supply for S2D2 Lamp (L10671P)

Parameter			Description / Value	Unit	
Input Voltage (DC)			8.5 to 13.2	V	
Power Consumption		Max.	10	VA	
D2 Lamp Output (CN3)	Output Voltage (DC)	With Load	Approx. 135	V	
		Without Load	Approx. 250	V	
	Output Current (DC)		30 ± 2	mA	
	Warm-up Time		25 ± 5	s	
	Trigger Voltage (DC)		Approx. 250	V	
	Filament Ratings	Warm-up	Voltage (DC)	4.2 ± 0.2	V
			Current (DC)	Approx. 0.6	A
Operating		Time	25 ± 5	s	
		Voltage (DC)	3.5 ± 0.2	V	
CN4 Output	Output Voltage (DC)		5 ± 0.2	V	
	Output Current (DC)	Max.	0.15	A	
CN5 Output <sup>④</sup>	Output Voltage (DC) (±)		5 ± 0.2	V	
	Output Current (DC) (±)	Max.	0.5	A	
CN9 Output	Output Voltage (DC)		12 ± 0.5	V	
	Output Current (DC)	Max.	0.2	A	
Weight			42.3	g	
Operation Ambient Temperature			0 to +40	°C	
Storage Temperature			-10 to +60	°C	
Operation Ambient Humidity			Below 80 % (no condensation)	—	
Storage Humidity			Below 85 % (no condensation)	—	
Conformance Standards			CE Marking	—	
External Control			Lamp ON / OFF	—	
			CN4 Output ON / OFF		
			CN5 Output ON / OFF		
			Status signal for lamp ON / OFF, CN4 Output and Main power ON / OFF		

④Alternately outputs +5 V and -5 V at 200 msec intervals whenever a signal is input across external control terminals 3 and 10.

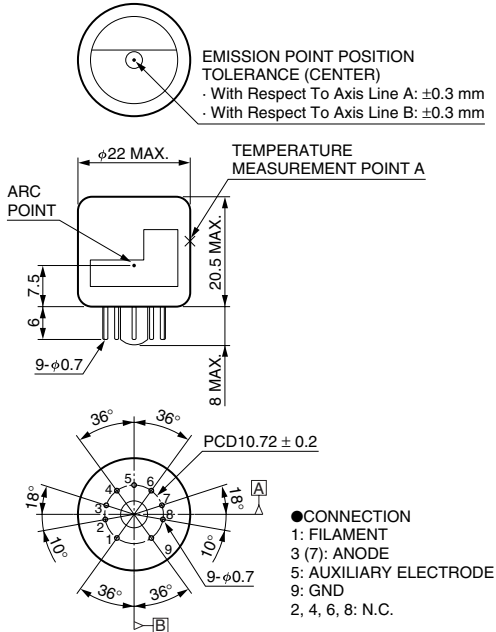
## Lamp Housing for S2D2 Lamp (L10671H)

Parameter	Description / Value	Unit
Weight	320	g
Optimum Operation Temperature <sup>⑤</sup>	+40 to +80	°C
Storage Temperature	-10 to +60	°C
Operation Ambient Humidity	Below 80 % (no condensation)	—
Storage Humidity	Below 85 % (no condensation)	—

⑤Point B in L10671H drawing (Before installing this module in equipment, take the heat ratings into account, so the operating temperature will be within this temperature range.)

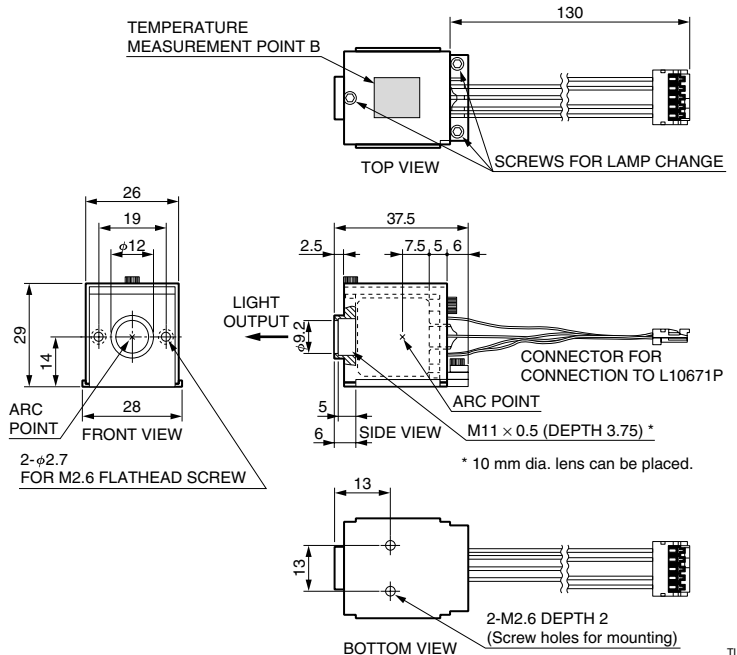
# DIMENSIONAL OUTLINES (Unit: mm)

## ●S2D2 Lamp (L10671D)



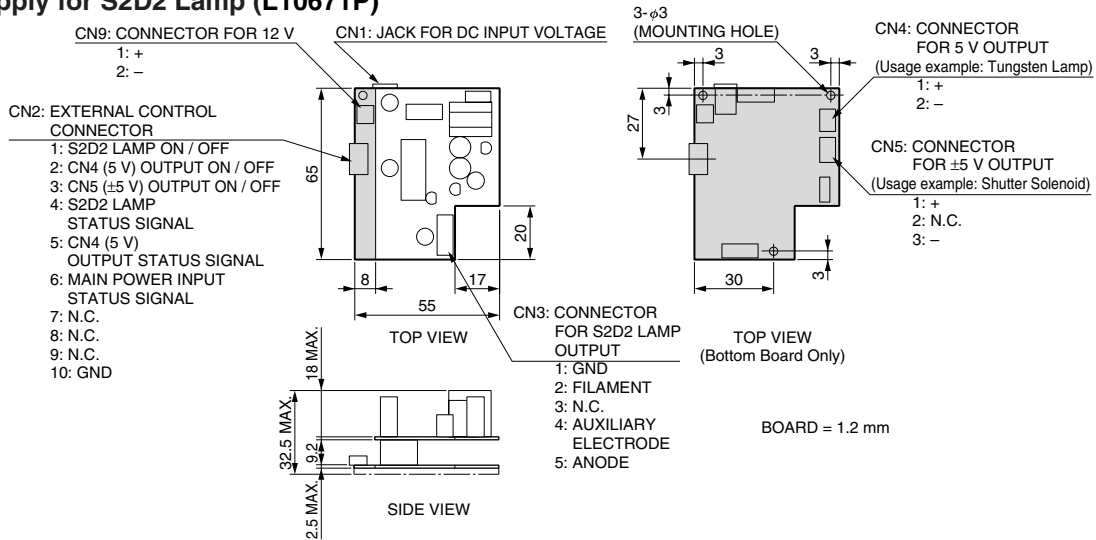
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## ●Lamp Housing for S2D2 Lamp (L10671H)



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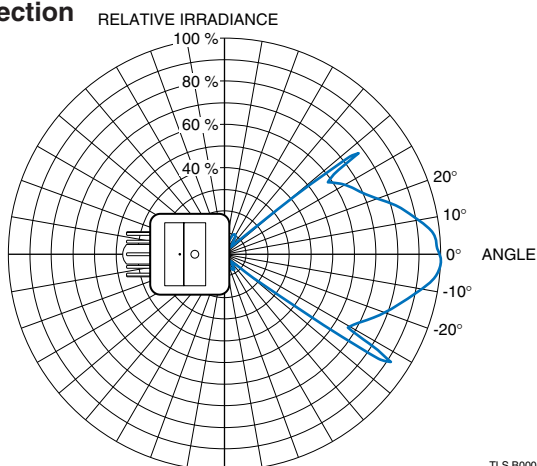
## ●Power Supply for S2D2 Lamp (L10671P)



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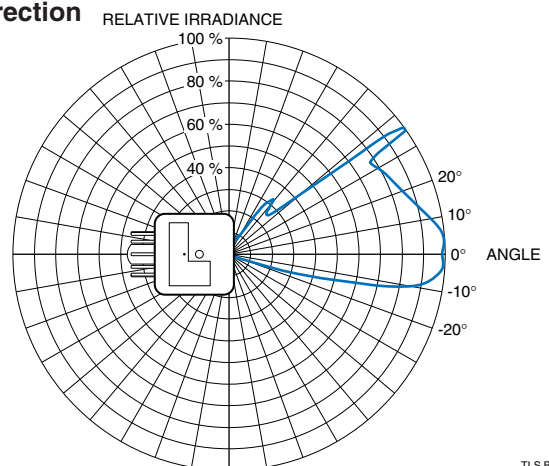
# DIRECTIVITY (LIGHT DISTRIBUTION)

## ●X Direction



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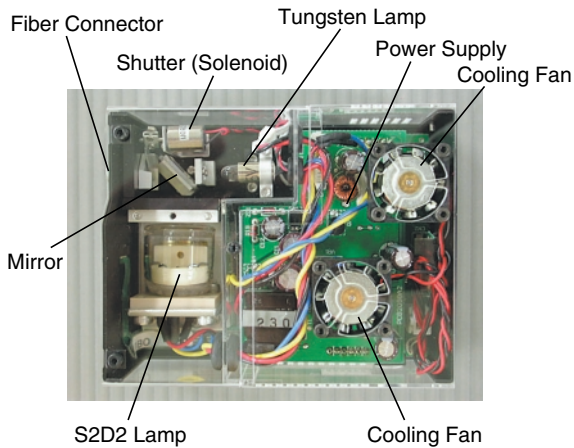
## ●Y Direction



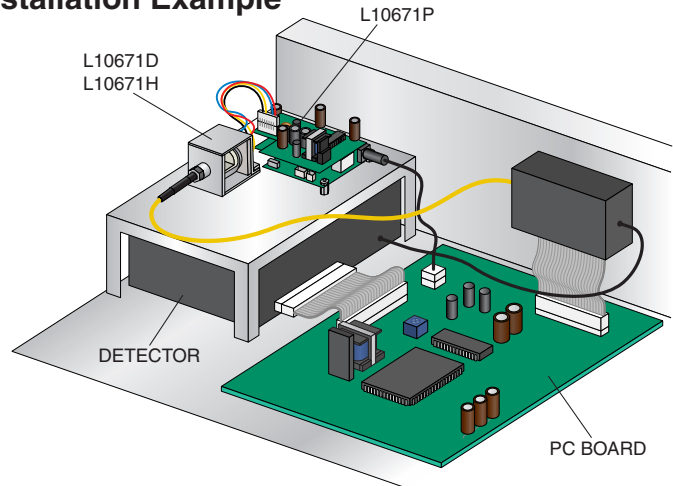
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# USAGE EXAMPLE

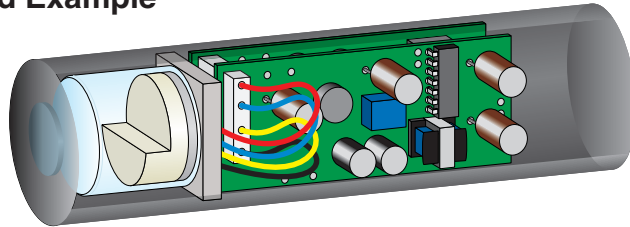
## ● Assembly Example



## ● Installation Example



## ● Customized Example \*



\* We also accept orders for custom products to meet special needs. Feel free to contact us as needed.

## RELATED PRODUCTS

### COMPACT UV-VIS S2D2 FIBER LIGHT SOURCE L10671



Light guide is sold separately

The L10671 is the compact UV-VIS fiber light source using a S2D2 (Stable and Small Deuterium) lamp. The L10671 is the light source that offers high radiant power and high stability despite its compact size. Besides being compact and easy to carry, the L10671 operates on a low voltage. These features make the L10671 ideal for all types of portable devices requiring a UV-VIS light source.

### S2D2 VUV LIGHT SOURCE UNIT L10706



Left: Light Source, Right: Power Supply

The S2D2 VUV light source unit is a vacuum ultraviolet light source unit that incorporates a compact deuterium lamp with an MgF<sub>2</sub> window. This light source unit allows irradiating objects or samples at a very close distance, and can be installed and operated under depressurized conditions.

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