DATASHEET
Lighting Solutions

LS-6
6-Watt Pulsed Xenon Light Source



LS-6 Pulsed Xenon Light Source for UV/Vis/NIR Applications

The LS-6 from Excelitas Technologies is a 6 Watt Pulsed Xenon Light Source which has been designed to combine state-of-the-art circuitry and components into a packaged light source which provides microsecond-duration pulses of broadband light with exceptional arc stability. The compact, integrated solution contains the flash lamp, trigger circuit, and power supply in an EMI-suppressant enclosure.

The LS-6 offers a wide range of flash energy levels and 6 watts average power in a compact, pre-aligned module. It utilizes Excelitas' high stability short arc Xenon flash lamps. Known for their stability and long life characteristics, these Xenon lamps generate light over a continuous spectrum from ultraviolet to infrared.

The LS-6 family of compact, Xenon light sources is the ideal choice for clinical diagnostic, invitro diagnostics, life sciences, drug discovery, proteomics, and analytical instrumentation applications.

Features

- High radiant intensity
- Continuous spectrum UV-VIS-IR
- High Stability , <1% CV
- Long life: > 1.0 x 10^9 flashes
- 6 Watts maximum power
- Integrated package—flash lamp, trigger circuit and power supply, all in a compact, EMI suppressant enclosure
- Flexible mounting
- CE marked and RoHS compliant

Applications

- Absorption analysis
- Immunoassay modules
- Fluorimetry
- Spectroradiometry
- Liquid and gas chromatography
- Colorimetry
- UV/VIS/NIR applications

EXCELITAS®
TECHNOLOGIES

LS-6

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Electrical Input Specifications

Parameter	Specification
Voltage	11-28 VDC
DC Current	1 Amp avg.
Inrush Current	4 Amps peak
Trigger	+5V, 20-50mA peak input, 10-100µs pulse width, leading edge trigger. Optically isolated internal series resistor = 150Ω.
V_{ref} (V_0/V_{ref} = 127)	3.15 – 4.73VDC
Internal/External Intensity Adjust	Switch Selectable
Input Connector	9-PIN D-Sub

Electrical Output

Parameter	Specification
Voltage	400-600 ± 2% VDC adjustable
Power (Joules/sec)	6 watts max (power = joules x flash rate)
Standard Discharge Capacitor	0.047, 0.10, 0.22, 0.27 µF
Flash Rate (Hz)	$F_{max} = 6/E$, where $E=1/2CV^2$

Light Output

Parameter	Specification
Spectral Range	120-2000+ nm
Stability[1]	<1% CV
Lifetime	>1x10^9 Flashes

[1] CV or Coefficient of variation is defined as: CV% = (Standard Deviation of 20 Flashes)/(Mean of 20 Flashes). Operating conditions: 0.22 µF discharge capacitor. 600 VDC discharge voltage. 10 Hz flash rate

Environmental

Parameter	Specification
Operating Temperature	32 to 104°F (0 to 40°C)
Storage Temperature	-40 to 194°F (-40 to 90°C)
Humidity	95% RH, non-condensing
Safety Compliance	CE Marked

Operating Conditions

Part Number	Main Discharge Capacitor (µF)	Main Discharge Voltage (V)	Max. Average Input Energy per Flash (mJ)	Max. Repetition Rate (Hz)	Max. Average Power (W)
LS-6ABC-1E	0.047	400	3.8	1579	6
		500	5.9	1016	6
		600	8.5	705	6
LS-6ABC-2E	0.10	400	8	750	6
		500	12.5	480	6
		600	18	333	6
LS-6ABC-3E	0.22	400	17.6	341	6
		500	27.5	218	6
		600	39.6	151	6
LS-6ABC-4E	0.27	400	21.6	278	6
		500	33.7	178	6
		600	48.6	123	6

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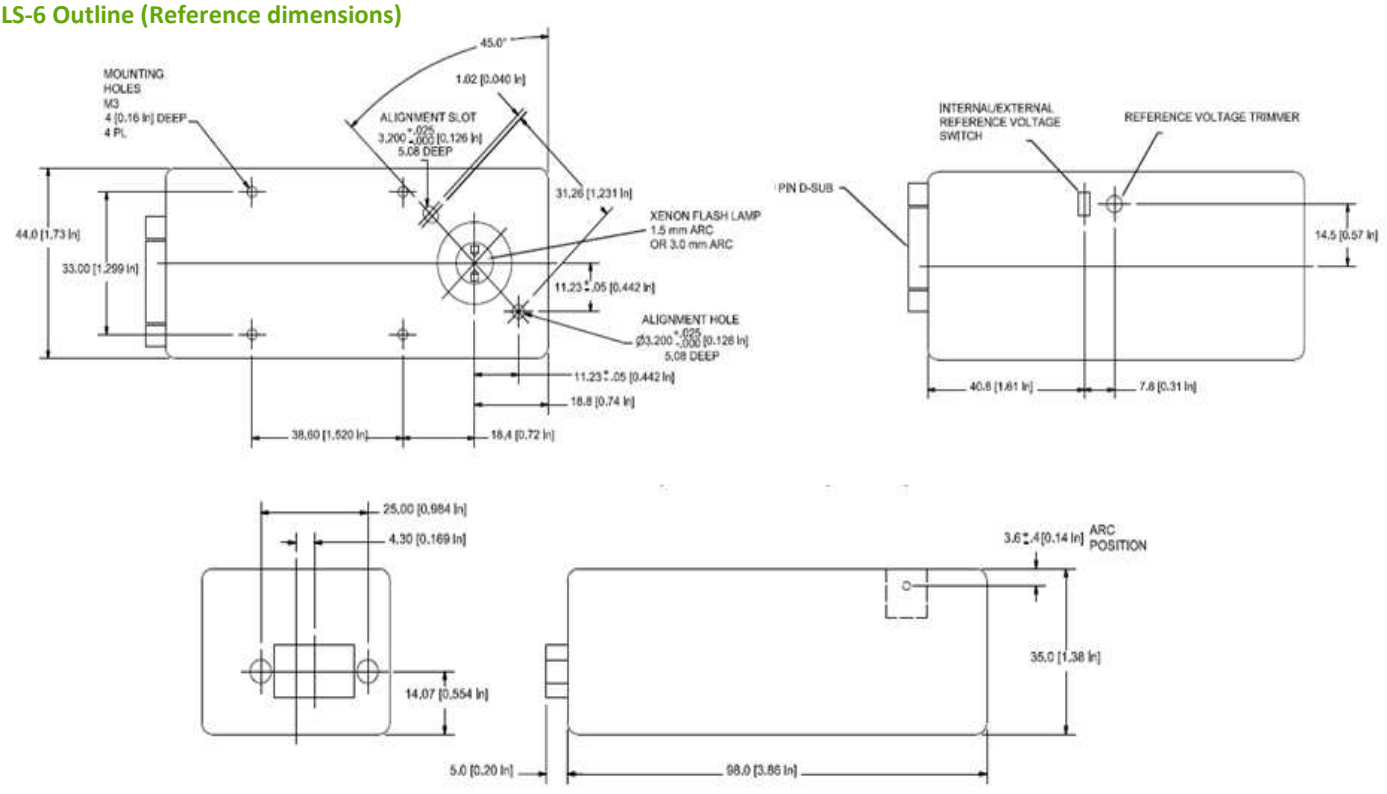
Part Number Configuration: LS-6ABC-DE	
Where:	
A = Audible Noise	**5** - Standard
	8 – Low Audible Noise
B = Arc Orientation	**0** - Standard (Vertical)
	1 - 90° Rotated from standard (Horizontal)
C = Lamp Type	**1** - 1.5 mm arc length, 225-2000+ nm
	2 - 1.5 mm arc length, 190-2000+ nm
	3 - 1.5 mm arc length, 120-2000+ nm
	7 - 1.5 mm arc length, 160-2000+ nm
	4* - 3.0 mm arc length, 225-2000+ nm
	5* - 3.0 mm arc length, 190-2000+ nm
	6* - 3.0 mm arc length, 120-2000+ nm
	8* - 3.0 mm arc length, 160-2000+ nm
D = Discharge Capacitor	**1** - 0.047 µF
	2 - 0.10 µF
	3 - 0.22 µF
	4 - 0.27 µF
E = SMA Fiber Adapter	**0** - No Adapter
	1 - SMA Fiber Adapter

***** 3.0 mm arc lamps not available in Low Audible Noise.

Example: **LS-6502-41** Standard lamp, standard (vertical) arc orientation, 1.5 mm arc, UV glass window, 0.27 uF capacitor, and SMA Fiber Adapter.

Mechanical Dimensions

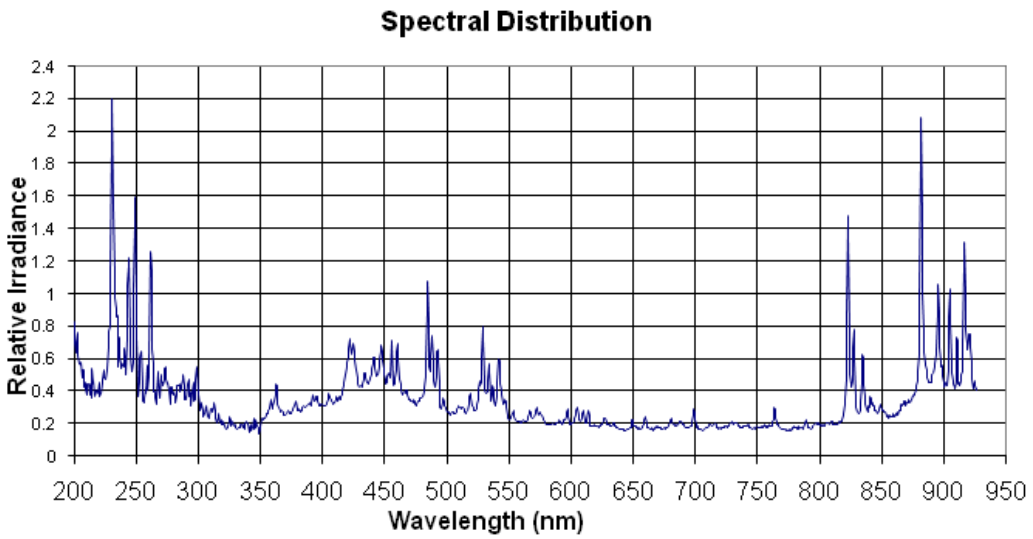
LS-6 Outline (Reference dimensions)



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Spectral Output (Reference)



NOTE: All values are nominal; specifications subject to change without notice.

About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection and other high-performance technology needs of OEM customers.

From analytical instrumentation to medical lighting clinical diagnostics, industrial, safety and security, and aerospace and defense applications, Excelitas Technologies is committed to enabling our customers' success in their specialty end-markets. Excelitas Technologies has approximately 5,000 employees in North America, Europe and Asia, serving customers across the world.

Excelitas Technologies
Frequency Standards & Switching
High Voltage Power Supplies
35 Congress Street
Salem, MA 01970 USA
Tel: (+1) 978.224-4100
Toll free: (+1) 800.950.3441
Fax: (+1) 978.745.0894

Excelitas Technologies
LED Solutions, Inc.
160 E. Marquardt Drive
Wheeling, IL 60090 USA
Telephone: (+1) 847.537.4277
Fax: (+1) 847.537.4785
ledsolutions.na@excelitas.com

Excelitas Technologies
Illumination, Inc.
44370 Christy Street
Fremont, CA 94538-3180 USA
Telephone: (+1) 510.979.6500
Toll-free: (+1) 800.775.6786
Fax: (+1) 510.687.1140

Excelitas Technologies
Elcos GmbH
Luitpoldstrasse 6
Pfaffenhofen, 85276
Germany
Telephone: (+49) 8441.8917.0
Fax: (+49) 8441.7191.0
ledsolutions.europe@excelitas.com

Excelitas Technologies Shenzhen Co., Ltd.
Wearnes Technology Center
No.10 Kefa Road, Science & Industry Park,
Nanshan District, Shenzhen, Guangdong
China 518057
Telephone: (+86) 2655 3861
Fax: (+86) 755 2661 7311
ledsolutions.asia@excelitas.com

For a complete listing of our global offices, visit http://www.excelitas.com/locations

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