DATASHEET
Lighting Solutions

RSL-3100
Miniature Xenon Flashlamp System

Excelitas' RSL-3100 miniature pulsed Xenon light source for UV-VIS-NIR applications.

The RSL-3100 is one of the smallest pulsed Xenon sources on the market today. The compact, low cost RSL-3100 light source from Excelitas Technologies provides all the benefits of the original RSL-2100 plus all the additional features that customers have been asking for.

The RSL-3100 offers SMA connector flexibility, intensity control and reduces EMI, all in a small package designed to meet CE directives. Along with a standardized "D-sub" connector, various window options and optimized lamp alignment, the new RSL-3100 meets the most demanding system requirements. The RSL-3100 operates at up to 2 Watts and offers high radiant, broadband optical energy with the long life customers have grown to expect.

Similar to all Excelitas Technologies pulsed Xenon systems, the RSL-3100 offers exceptional arc stability, microsecond flash duration and long life making it an excellent choice for analytical instruments, military systems and portable instrument applications where LEDs and other light sources fail.

Key Features

- Small size
- High radiant intensity
- Continuous spectrum UV-VIS-IR
- Long life
- Customization is available for specific OEM needs

Applications

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

EXCELITAS
TECHNOLOGIES

RSL-3100

Electrical Input Specifications

Parameter	Specification
Voltage	11-28 VDC
DC Current	0.2 Amps RMS
Peak Current	1.0 Amp
Trigger	+5V, 20-50mA peak input, 10-100µs pulse width, leading edge trigger. Optically isolated internal series resistor = 150Ω.
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)	2 watts max (power = joules x flash rate)
Standard Discharge Capacitor	0.047, 0.10, 0.22 µF
Flash Rate (Hz)	F_{max} = 2/E, where E=1/2V^2

Light Output

Parameter	Specification
Spectral Range	190-2000+ nm
Stability[1]	<3% CV
Lifetime	>1x10^8 Flashes

[1] CV or Coefficient of variation is defined as: CV% = (Standard Deviation of 20 Flashes)/(Mean of 20 Flashes)

Environmental

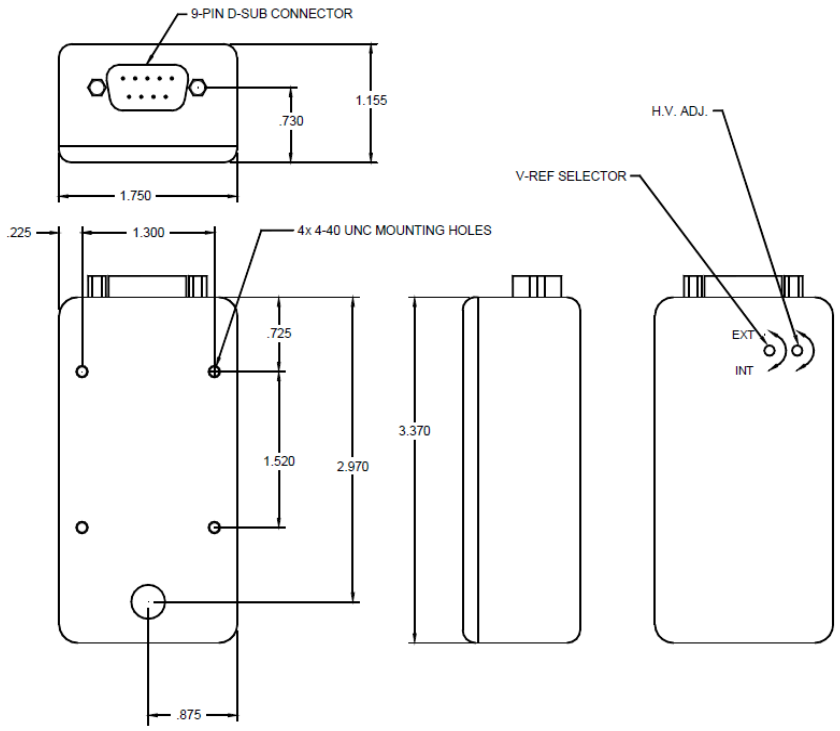
Parameter	Specification
Operating Temperature	32 to 104°F (0 to 40°C)
Storage Temperature	-40 to 194°F (-40 to 90°C)
Humidity	95% RH, non-condensing
Shock and Vibration	1.5G, 5-200 Hz (Mil-STD-810C)
Safety Compliance	Designed to meet EN60950

Operating Conditions

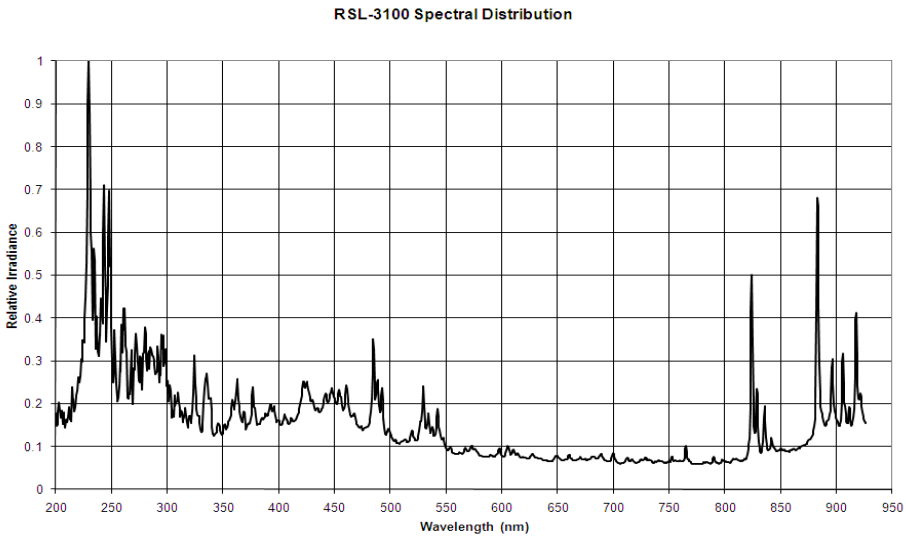
Capacitor (µF)	Max Input/Flash (mJ)	Max Flash Rate @ 600 VDC (Hz)	Max Flash Rate @ 400 VDC (Hz)
0.22	40	50	115
0.10	18	111	250
0.047	8.5	235	530

Mechanical Dimensions

RSL-3100 Outline



Spectral Output



Ordering Information: RSL-310A-BC	
Where	
A = Spectral Distribution	**0** = 250-2000+nm, **1** = 190-2000+nm, **2** = 160-2000+nm
B = Discharge Capacitor	**1** = 0.22µF, **2** = 0.10µF, **3** = 0.047µF
C = Fiber Optic Adapter	**0** = No adapter, **1** = SMA 905

***Part Number Example:** RSL-3100-31. Spectral Distribution of 250-2000+nm with the 0.047 µF discharge capacitor and SMA905 fiber adapter

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 medical lighting to analytical instrumentation, 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 3,000 employees in North America, Europe and Asia, serving customers across the world.

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