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**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

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## 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

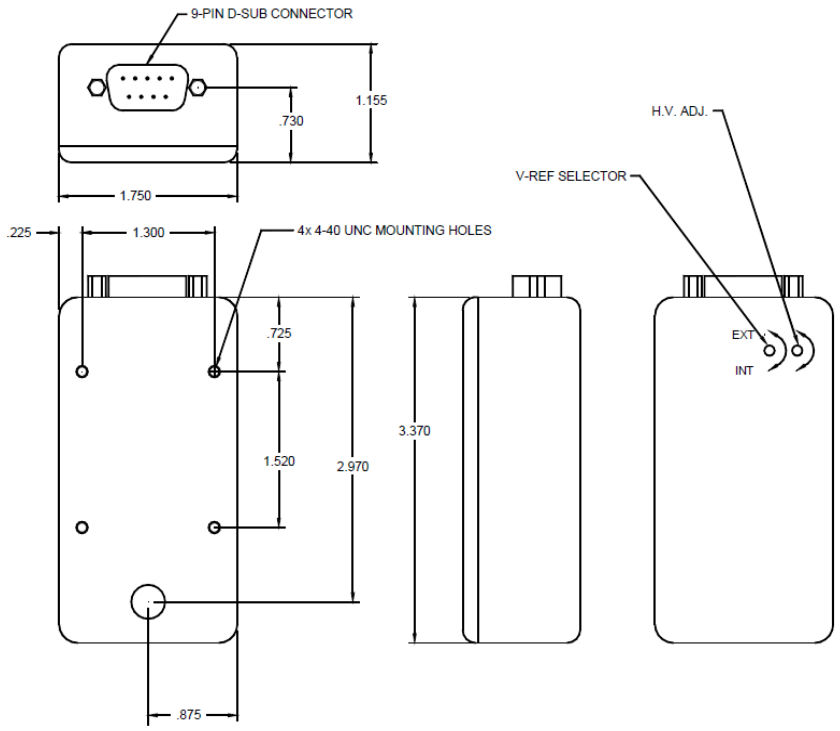
| Parameter | Specification |
|---|---|
| Operating Temperature | 32 to 104°F (0 to 40°C) |
| Storage Temperature | -40 to 194°F (-40 to 90°C) |
| Humidity | 95% RH, non-condensing |
| Shock and Vibration | 1.5G, 5-200 Hz (Mil-STD-810C) |
| Safety Compliance | Designed to meet EN60950 |

### Operating Conditions

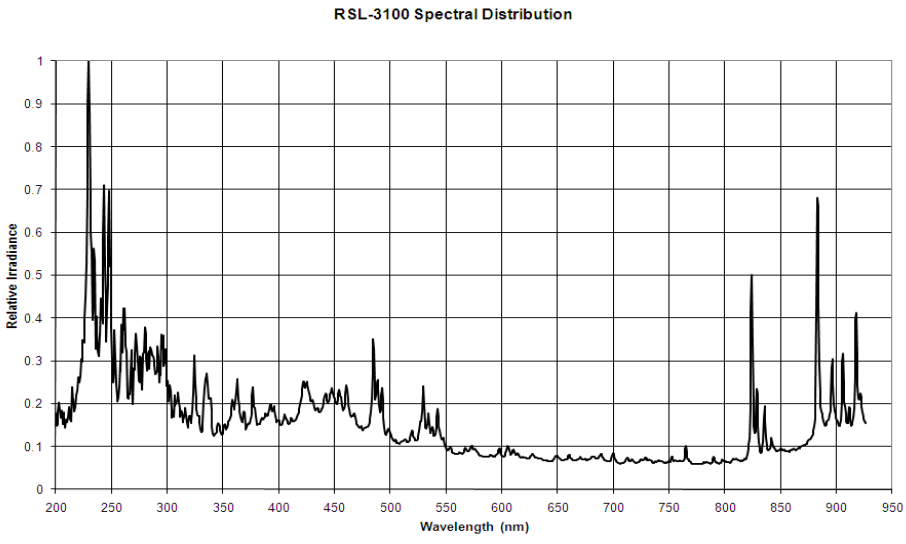
| Capacitor (µF) | Max Input/Flash (mJ) | Max Flash Rate @ 600 VDC (Hz) | Max Flash Rate @ 400 VDC (Hz) |
|---|---|---|---|
| 0.22 | 40 | 50 | 115 |
| 0.10 | 18 | 111 | 250 |
| 0.047 | 8.5 | 235 | 530 |

## 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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