1100 Series
High Stability Short Arc Xenon Flashlamps

Description

The 1100 Series Short Arc Xenon Flashlamps are unconfined arc flashlamps which produce microsecond duration pulses of broadband light of high radiant intensities. Capable of operating at high repetition rates, these small flashlamps generate light over a continuous spectrum from ultraviolet to infrared. Exceptional arc stability and life characteristics will make the 1100 Series Flashlamps indispensable in precision photometry, radiometry, and spectroradiometry. When coupled with the 1100 Series Trigger Modules and highly regulated-low ripple power supplies, the short arc flashlamps make ideal sources of pulsed light for ... absorption analysis, immunoassay systems, fluorescent photometers, spectroradiometry, liquid chromatography, gas chromatography, colorimetry and ultraviolet applications.

A broad range of flashlamp, trigger modules, and power supply configurations are available to satisfy the most demanding application.

Features

- Exceptional arc stability
- High radiant intensity
- Continuous spectrum UV-VIS-IR
- Long Life
- High repetition flash rates
- Low heat radiation
- Microsecond flash durations
- Various envelope materials
- No warm up period
- High efficiency output in the blue
- Simple fiber optic coupling
- Small size

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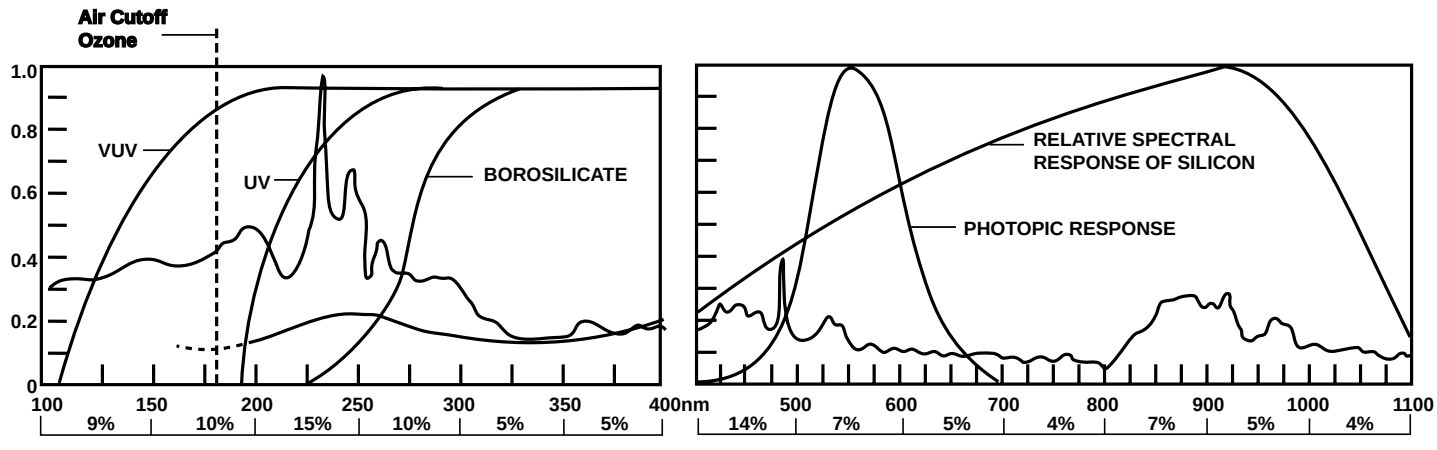
1100 Series Lite-Pac® Trigger Modules

Type	Arc Length (mm)	Spectral Distribution (nm)	Window Material	Energy per Flash (joules)	Average Power (watts)	Voltage (Vdc)	Flash Rate (Hz)	Life (1) (flashes)
Low Power								
FX 1101	1.5	225 – 1100+	Borosilicate	0.15 MAX.	10 MAX.	350 – 1000	300 MAX.	>1 x 10^9
FX 1102		190 – 1100+	UV					
FX 1103		120 – 1100+	VUV					
FX 1104	3.0	225 – 1100+	Borosilicate	0.15 MAX.	10 MAX.	350 – 1000	300 MAX.	>1 x 10^9
FX 1105		190 – 1100+	UV					
FX 1106		120 – 1100+	VUV					
Medium Power								
FX 1130	1.5	225 – 1100+	Borosilicate	0.25 MAX.	15 MAX.	350 – 1000	300 MAX.	>1 x 10^9
FX 1131		190 – 1100+	UV					
FX 1132		120 – 1100+	VUV					
High Power								
FX 1150	1.5	225 – 1100+	Borosilicate	0.5 MAX.	20 MAX.	350 – 1000	300 MAX.	>1 x 10^9
FX 1151		190 – 1100+	UV					
FX 1152		120 – 1100+	VUV					
FX 1153	3.0	225 – 1100+	Borosilicate	0.5 MAX.	20 MAX.	350 – 1000	300 MAX.	>1 x 10^9
FX 1154		190 – 1100+	UV					
FX 1155		120 – 1100+	VUV					

Typical Spectral Distribution of Xenon Flashlamps and Window Transmittance



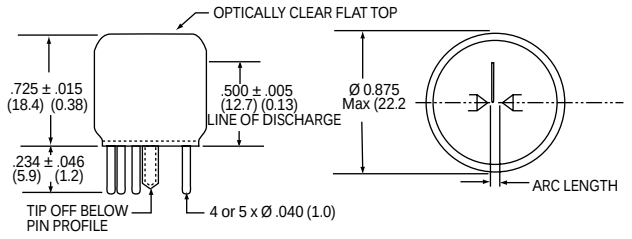
Jitter (2) (ns)	Typical Arc Stability (3) Light Output	Spatial Movement	Weight (g)	Lite-Pac Type
<200	+/- 1% CV	<0.1 mm	6	FYD 1101
<200	+/- 1% CV	<0.1 mm	6	FYD 1101

Note #3 Refer to technical brief for additional information regarding flashlamp stability

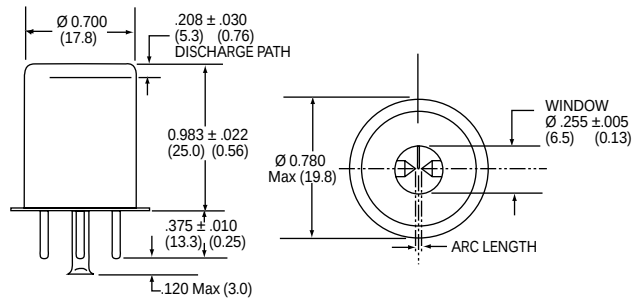
<200	1%	<0.1 mm	12	FYD 1130

<200	1%	<0.1 mm	30	FYD 1150
<200	1%	<0.1 mm	30	FYD 1150

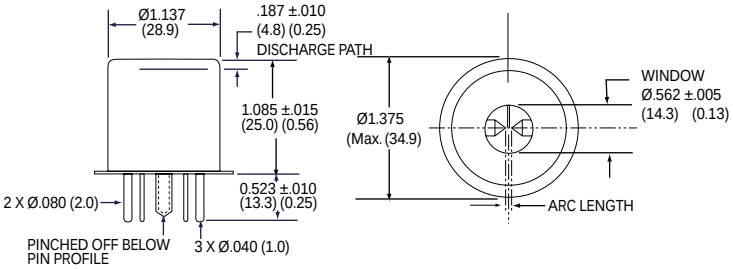
FX 1101-1106



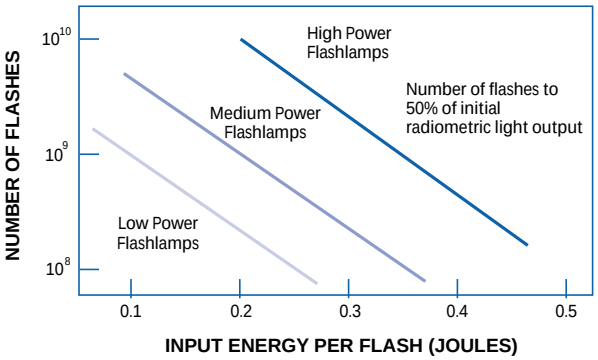
FX 1130-1132



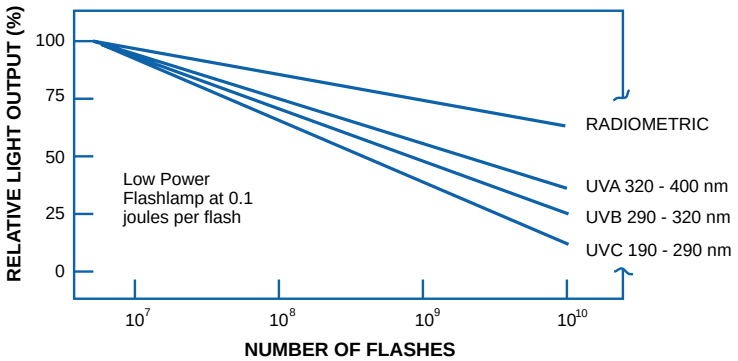
FX 1150-1155



Life vs. Input Energy



Life vs. Wavelength



Outline Drawings or Specification Charts

E	=	$1/2\ CV^2$	where:	E	=	Discharge energy (joules)
				C	=	Capacitance (microfarads)
				V	=	Discharge voltage (kilovolts)
P_{AVG}	=	$E\ F$		P_{AVG}	=	Average power (watts)
				E	=	Discharge energy (joules)
				F	=	Flash rate (pulses per second)
I_{PK}	=	$V(C/L)^{½}$		I_{PK}	=	Peak discharge current (keep below 1000 amps)
				L	=	Circuit inductance (use 0.5µH for best approximation)
$t_{1/3}$	=	$\pi\ (LC)^{½}$		$t_{1/3}$	=	Pulse width at 1/3 peak.

Note: Peak currents should be kept below 1000 amps. Exceeding this limit could cause envelope fracture, excessive electrode wear and premature darkening.

Caution

Some glass flashlamps are under high internal pressure, and, if broken, could result in glass particles being blown into the face and hand areas. To prevent injury, wear suitable protective devices such as safety glasses and/or face mask and gloves.

Some types of pulsed lamps generate intense ultraviolet radiation which, if not properly shielded from personnel in the area, will cause burns to any exposed skin and especially to the eyes. Do not expose any skin area or the eyes to the direct or reflected radiation of an operating lamp. If you have to view an operating lamp, always use protective covering for exposed skin area and ultraviolet-attenuating goggles for the eyes.

For more information email us at opto@perkinelmer.com or visit our web site at www.perkinelmer.com/opto
Note: All specifications subject to change without notice.

USA:
PerkinElmer Optoelectronics
35 Congress Street
Salem, MA 01970
Toll Free: (800) 950-3441 (USA)
Phone: (978) 745-3200
Fax: (978) 745-0894

Europe:
PerkinElmer Optoelectronics
Wenzel-Jaksch-Str. 31, D-65199
Weisbaden, Germany
Phone: +49 (0) 611-492-437
Fax: +49 (0)611-492-159

Asia:
PerkinElmer Optoelectronics
47 Ayer Rajah Crescent #06-12
Singapore 139947
Phone: +65 775 2022
Fax: +65 775 1008

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