NEW

20 W XENON FLASH LAMP

OVERVIEW

Hamamatsu 20 W xenon flash lamps were developed as light sources that provide optimal characteristics mainly for medical and environmental analysis. Use of a new electrode ensures highly stable operation and minimal wear even at high energy input, achieving 1.2 times higher light output intensity, 1.5 times higher light output stability, and 2 times longer service life than other manufacturers' lamps.

▲L11937

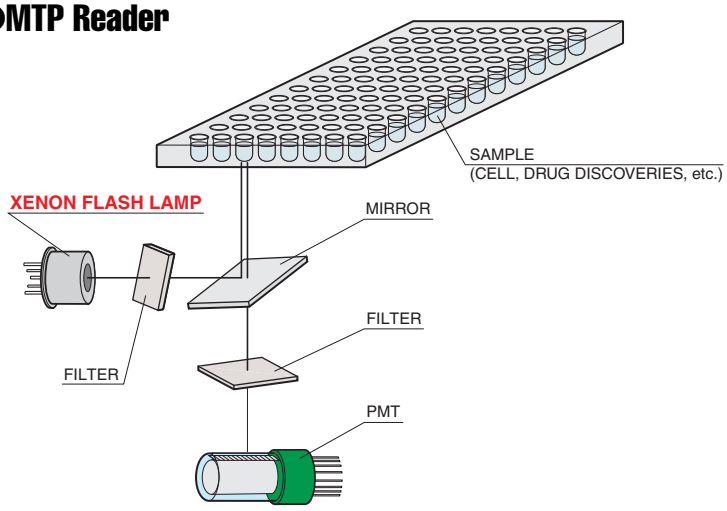
20 W xenon flash lamp + trigger socket + power supply

FEATURES

- **High Stability: 1.0 % CV Typ.**
- **Long Life: 1 × 10^8 flashes**
- **High energy input: 0.5 J (maximum input energy per flash)**
- **Built-in reflector mirror type: High output**
  (about 1.4 times higher than ordinary type)

APPLICATIONS

- **MTP Reader**



- **Fluorescence Spectrometers**
- **Blood Analyzers**
- **Air Pollution Analysis**
- **In-vitro Testing**
- **Semiconductor Inspection**
- **Water Pollution Analysis, Drainage Pollution Analysis**
- **Light Sources for Image Processing**

LINEUP

		20 W Type		20 W Built-in Reflective Mirror Type	
Arc Size		1.5 mm	3.0 mm	1.5 mm	3.0 mm
Window Material	Borosilicate Glass	L11936	L11956	L11946	L11966
	UV Glass	L11937	L11957	L11947	L11967
	Sapphire Glass	L11938	L11958	L11948	L11968
	Fused Silica*	L11939	L11959	L11949	L11969

*: Mark to order

SPECIFICATIONS

20 W TYPE

Parameter		L1193□	L1195□	Unit
Arc Size		1.5	3.0	mm
Window Material		Borosilicate Glass / UV Glass / Sapphire Glass / Fused Silica		—
Spectral Distribution	Borosilicate Glass	240 to 2000		nm
	UV Glass	185 to 2000		
	Sapphire Glass	190 to 2000		
	Fused Silica	160 to 2000		
Recommended Supply Voltage		700 to 1000		V
Trigger Voltage		5 to 7		kV p-p
Maximum Average Input Energy(per flash) ①		0.5		J
Maximum Average Input(Continuous) ②		20		W
Repetition Rate (Max.)		300		Hz
Light Output Stability (Typ.) ③		1		% CV
Guaranteed Operation Life ④		1.0×10^8		flashes
Cooling Method		Not required		—
Applicable Trigger Socket		E10977	E10978	—

20 W BUILT-IN REFLECTIVE MIRROR TYPE

Parameter		L1194□	L1196□	Unit
Arc Size		1.5	3.0	mm
Window Material		Borosilicate Glass / UV Glass / Sapphire Glass / Fused Silica		—
Spectral Distribution	Borosilicate Glass	240 to 2000		nm
	UV Glass	185 to 2000		
	Sapphire Glass	190 to 2000		
	Fused Silica	160 to 2000		
Recommended Supply Voltage		700 to 1000		V
Trigger Voltage		5 to 7		kV p-p
Maximum Average Input Energy(per flash) ①		0.5		J
Maximum Average Input(Continuous) ②		20		W
Repetition Rate (Max.)		300		Hz
Light Output Stability (Typ.) ③		1		% CV
Guaranteed Operation Life ④		1.0×10^8		flashes
Cooling Method		Not required		—
Applicable Trigger Socket		E10977	E10978	—

Suffix in "□" position
[Window Material] 6 : Borosilicate Glass 7 : UV Glass 8 : Sapphire Glass 9 : Fused Silica

①Maximum average input energy (per flash)
$E=1/2\ CV^2$
E: Maximum average input energy (J) V: Main discharge voltage (V) C: Main discharge capacitance (F)

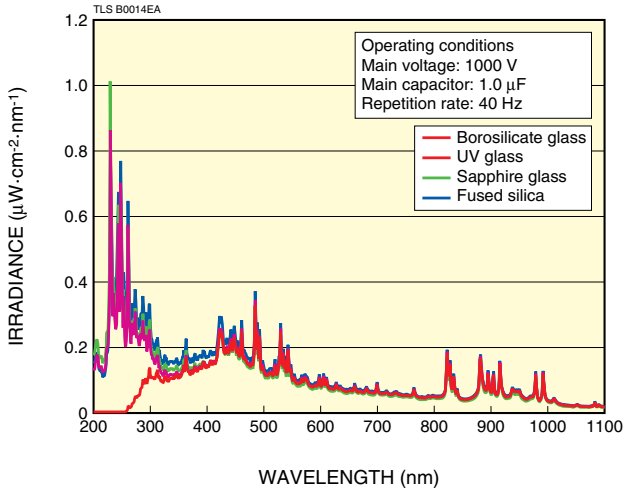
②Maximum Average Input (Continuous)
$W=E \times f$ f: Lamp emission repetition frequency (Hz)

③Light output stability is given by
Light output stability (% CV) = Light output standard deviation / Average light output × 100

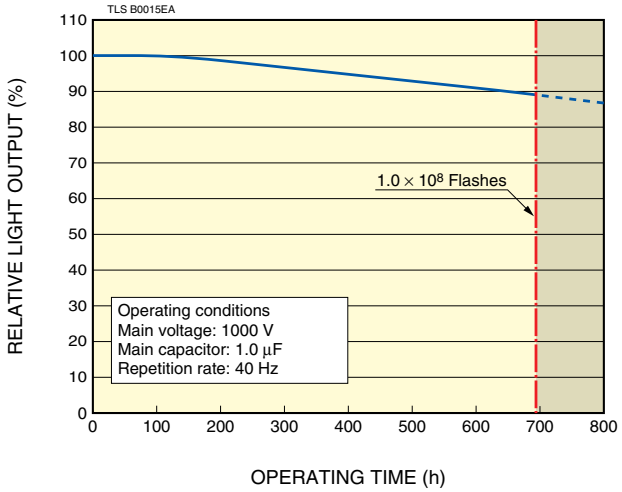
④The lamp life end is defined as the point when light output in the entire wavelength range falls to 50 % of its initial value or when output fluctuation exceeds 2.0 % CV, measured at a main discharge voltage of 1000 V, main discharge capacitance of 1.0 μF, and repetition frequency of 40 Hz.

CHARACTERISTICS

●Spectral Distribution

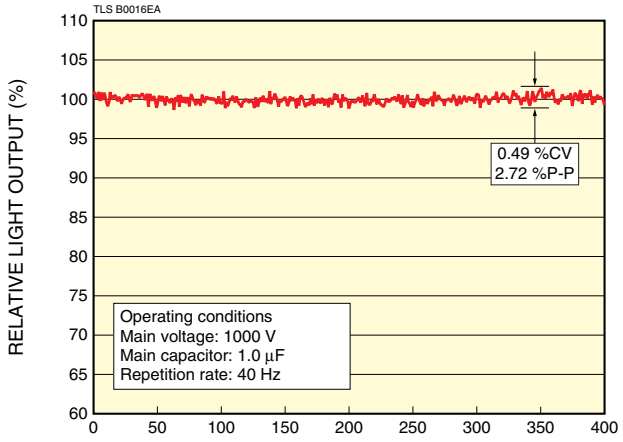


●Life

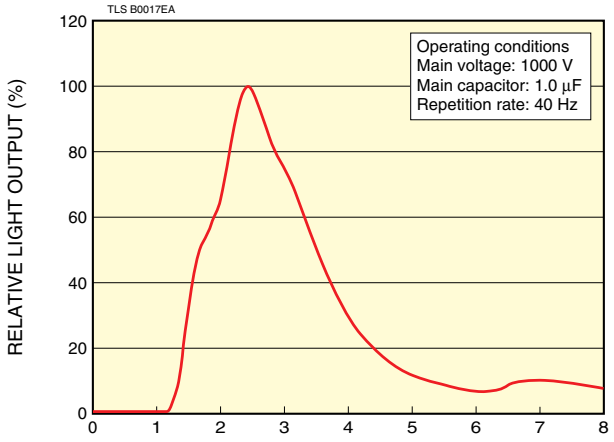


694 hours = 1.0×10^8 Flashes

●Light Output Stability



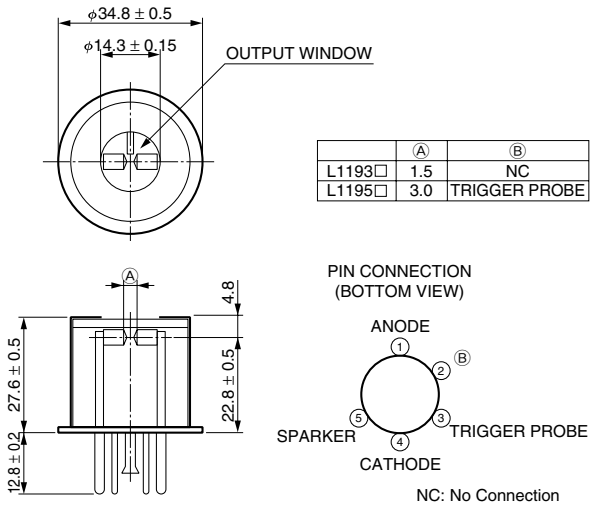
●Emission Pulse Waveform



DIMENSIONAL OUTLINES (Unit: mm)

●20 W Type

L1193□, L1195□



	Ⓐ	Ⓑ
L1193□	1.5	NC
L1195□	3.0	TRIGGER PROBE

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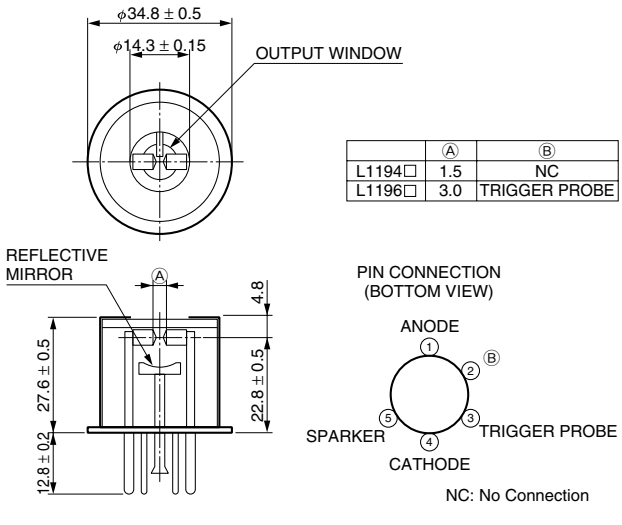
●20 W Built-in Reflective Mirror Type

L1194□, L1196□



	Ⓐ	Ⓑ
L1194□	1.5	NC
L1196□	3.0	TRIGGER PROBE

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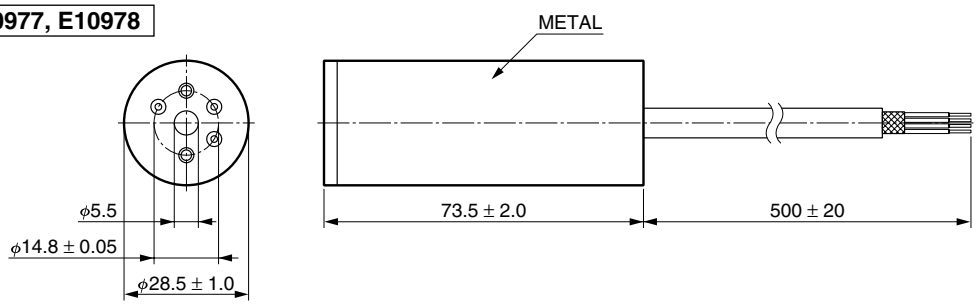
RELATED PRODUCTS

■Trigger Sockets

Hamamatsu provides trigger sockets specifically designed to quickly start operating the xenon flash lamp. These trigger sockets are integrated with a "high voltage transformer", "voltage dividing resistors" and "capacitors" in the same compact case. This frees the user from the troublesome task of designing and assembling the external circuit.

Dimensional Outline (Unit: mm)

E10977, E10978



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■Power Supplies

The radiant intensity of xenon flash lamps is nearly proportional to the input energy. This means that a highly regulated power supply is required to obtain better performance from the lamp.
Hamamatsu xenon flash lamp power supplies are switching power supplies having a high-speed charging circuit and discharge stop circuit.
This ensures a large power capacity for stable lamp operation while keeping the design compact.

Specifications

Parameter		C10979	C10980 Series	Unit
Main Power Supply	Output Voltage (DC)	300 to 1000		V
	Output Capacity (Max.)	20		W
	Stability (Max.)	±0.2		%
	Main Supply Capacitor	0.1	0.2 to 1.0 ①	μF
	Maximum Repetition Frequency	1000 ②		Hz
Trigger Section	Trigger Voltage (Typ.)	170		V
	Trigger Capacitor	0.22		μF
Trigger Input Section	Trigger Type	Internal / External		—
	Internal Oscillation Frequency	10 to 100		Hz
	Trigger Input Impedance	0.33		kΩ
	Input Waveform	Rectangular waveform		—
	Input Voltage	5 to 10 (Pulse width 10 μs or more)		V peak
Input Voltage (DC)		24 ± 2.4		V
Power Consumption		26		W
Cooling Method		Not required		—
Dimensions (W × H × D)		90 × 43 × 146	102 × 51 × 170	mm
Weight		570	810 ③	g

①The main discharge capacitor is installed at the factory before shipping. The capacitance value can be selected from 0.2 μF to 1.0 μF in 0.1 μF steps.
②Need to adjust it to the specification of lower than 20 W.
③Depend on the main discharge capacitance.

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