

The L8045 is optical communication devices designed for POF (Plastic Optical Fiber) data links. L8045 is a highly reliable, high-power LED that emits red light with a peak at 650 nm optimized for POF. A mini-lens is molded on the package for efficient coupling to a POF. When used with our recommended driver circuit, a 50 Mbps transmitter can be configured at low cost.

Features

Applications

conditions with high noise

High-speed data transmission even under poor environmental

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- Peak wavelength: 650 nm
- High reliability
- High output
- Designed to be used with S8046 or S7141-10

Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	
Forward current	IF	40	mA
Reverse voltage	Vr	5	V
Power dissipation*1	Pmax	250	mW
Operating temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-40 to +85	°C
Soldering	-	230 °C, 5 s, at least 1.8 mm away from package surface	-

*1: Power dissipation decreases at a rate of 1.75 mW/°C above Ta=25 °C

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Data rate	fD	NRZ	DC	-	50	Mbps
Forward voltage	VF	IF=20 mA	-	1.9	2.3	V
Reverse current	IR	Vr=5 V	-	-	10	μA
Peak wavelength	λр	IF=20 mA	-	650	-	nm
Spectral half width (FWHM)	Δλ	IF=20 mA	-	20	-	nm
Fiber-coupled optical output	Ро	*2	-13	-	-8	dBm
Rise time at pulse drive	tr	* ² 20 to 80%	-	-	8	ns
Fall time at pulse drive	tf	* ² 80 to 20%	-	-	8	ns
Pulse distortion	ΔΤ	*2	-3	-	+1	ns
Jitter	Δtj	*2	-	-	3	ns

*2: Input is a pseudo-random bi-phase signal at 50 Mbps.

Average value (duty ratio: 50%) measured by using a plastic fiber of ϕ 1 mm. SI-POF and NA=0.5 (GH4001 made by Mitsubishi Rayon). Measured with the recommended driver circuit shown below. (Measurement conditions: Vcc=4.5 to 5.5 V, R1=750 Ω , R2=2.2 k Ω , R3=22 Ω , C1=35 pF)



Note:

 \cdot A bypass capacitor (0.1 μ F) and another capacitor (4.7 μ F) are connected between Vcc and GND at a position within 3 mm from the lead. \cdot The center of the optical fiber is aligned with the center of the lens on the package. The distance between the fiber end and the lens is 0.1 mm.



Dimensional outline (unit: mm)



KLEDA0086EE

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

- Precautions
- Disclaimer
- · Metal, ceramic, plastic products

Information described in this material is current as of October 2017.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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