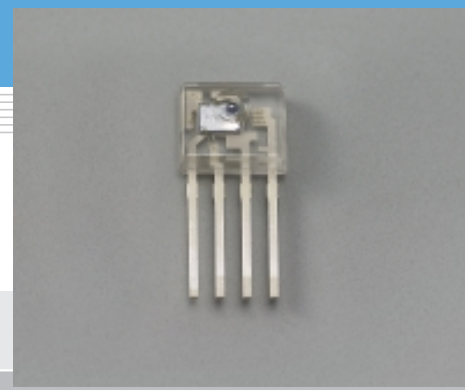


Photo IC for optical link

S7141-10

Photo IC for 50 Mbps optical link



Features

- DC to 50 Mbps data transmission
- Miniature size due to monolithic IC structure
- Inversion logic
- Digital output
- Designed to be used with L8045

Applications

- Data transmission in FA or OA applications subject to large amounts of electro magnetic noise
- High-speed, short distance data transmission
- Burst data transmission

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Power supply	Vcc	-0.5 to +7	V
Output current	Ioh	10	mA
Power dissipation *1	P	250	mW
Operating temperature	Topr	-10 to +70	°C
Storage temperature	Tstg	-40 to +85	°C
Soldering	-	230 °C, 5 s, at least 1.5 mm away from package surface	-

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

■ Electrical and optical characteristics (Ta=25 °C)

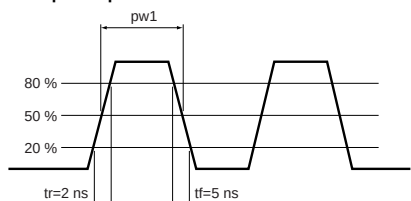
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Data rate	fd		DC		50	Mbps
Supply voltage	Vcc		4.75	-	5.25	V
Current consumption	Icc	Without light input	-	-	32	mA
Pulse width distortion	ΔT		-6	-	+6	ns
Minimum overload	Pimax	*2, *3	-5	-	-	dBm
Minimum receiver input power	Pimin	*2, *3	-	-	-17.5	dBm
Rise time	tr	*3	-	-	7	ns
Fall time	tf	*3	-	-	7	ns
Output voltage	Voh	Ioh=20 μ A	2	-	-	V
	Vol	Iol= -0.6 mA *4	-	-	1	V

*2: Output from a 1 meter long plastic fiber (GH4001 made by Mitsubishi Rayon) set close to the molded lens.

*3: Evaluated based on the input/output waveforms shown below. Measured with a low-capacitance FET probe (3 pF or less).

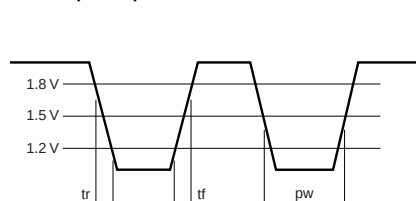
*4: Output is the "L" level (inversion logic) when light is input.

■ Input optical waveform definition



KPIC0022EA

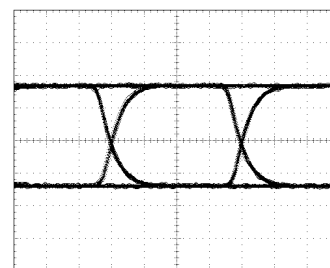
■ Output optical waveform definition



$\Delta T = pw1 - pw$

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■ S7141-10 output waveform example (Input light is referenced by drive circuit on front page) (Ta=25 °C, Pi= -16 dBm, Vcc=5.0 V)

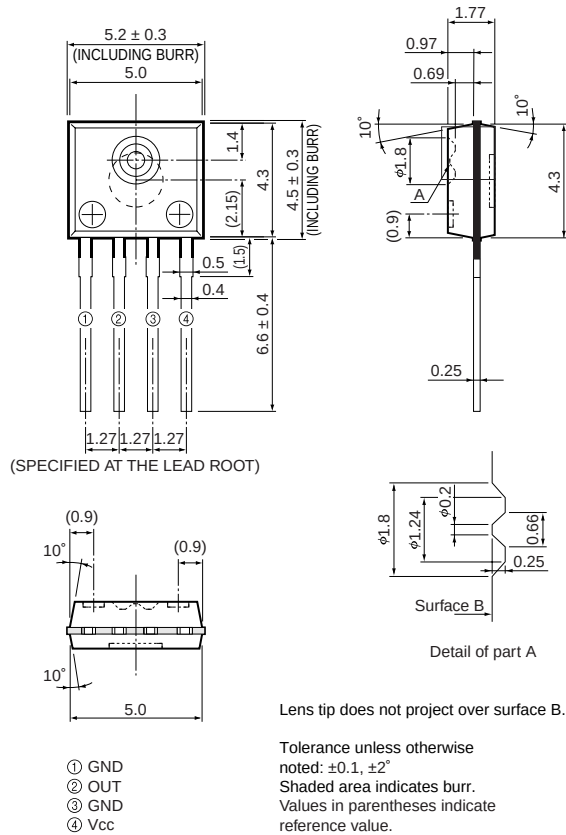


5 ns/div.

KPIC0068EA

SOLID STATE DIVISION

■ Dimensional outline (unit: mm)



KPICA0043EE

HAMAMATSU

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