

Reflective Object Sensor

Model No: LBR-123S

Description

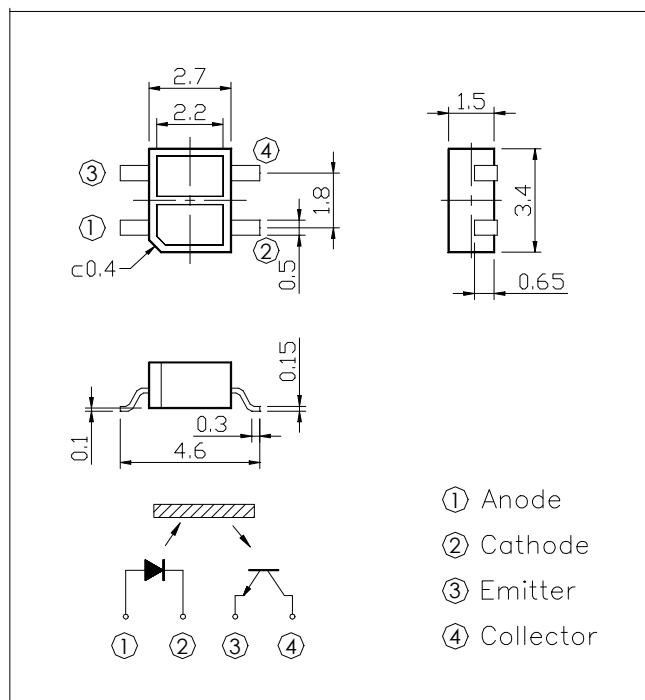
The **LBR-123S** is a light reflection switch that includes a GaAs IRLED transmitter and a NPN photo-transistor with a high photosensitive receiver for short distance, operating in the infrared range. Both components are mounted side-by-side in a plastic package.

Features

- Fast response time
- High sensitivity
- Cutting wavelength $\lambda = 840\text{nm}$
- Thin
- Compact

Applications

- Camera
- VCR
- Floppy disk driver



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Absolute Maximum Ratings (Ambient Temperature: 25°C)

Item		Symbol	Rating	Units	Note
Input	Forward current	I _F	50	mA	
	Reverse voltage	V _R	5	V	
	Peak forward current	I _{FP}	1	A	Pulse width ≤ 100 μs, Duty cycle=1%
	Power dissipation	P _d	75	mW	
Output	Collector current	I _c	50	mA	
	Collector-Emitter voltage	BV _{ceo}	30	V	
	Emitter-Collector voltage	BV _{eco}	5	V	
	Collector power dissipation	P _c	75	mW	
Storage Temperature		T _{stg}	-40 to +85	°C	
Operating Temperature		T _{op}	-25 to +85	°C	
Soldering Temperature		T _{sol}	260	°C	10 seconds max.

Electrical Specifications (Ambient Temperature: 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	Forward voltage	V _F		1.2	1.6	V	I _F =20mA
	Reverse current	I _R			10	μA	V _R =5V
	Peak wavelength	λ _p		940		nm	
	View angle	2θ 1/2		110		Deg.	I _F =20mA
Output	Dark current	I _{ceo}			100	nA	V _{ce} =10V
	C-E saturation voltage	V _{ce(sat)}			0.4	V	I _c =2mA, I _B =0.1mA
Light current		I _{c(on)}	0.1			mA	V _{ce} =5V I _F =20mA
Leakage current		I _{Leak}			1	μA	
Speed	Rise Time	t _r		20		μs	V _{ce} =2V I _c =100uA RL=1KΩ
	Fall Time	t _f		20			

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Reference Data

