

Reflective Object Sensor

Model No: LBR-127HLD

Description

The **LBR-127HLD** consist of an infrared emitting diode and an NPN silicon phototransistor, encased side-by-side on converging optical axis in a black thermoplastic housing. The phototransistor receives radiation from the IRED only. This is the normal situation. But when an object is in between, phototransistor could not receive the radiation.

Lead-free lead wire is tin-plated to prevent oxidation through the pollution of Sulfide in the air. Security ball is added into wire-bonding procedure in order to increase bonding strength.

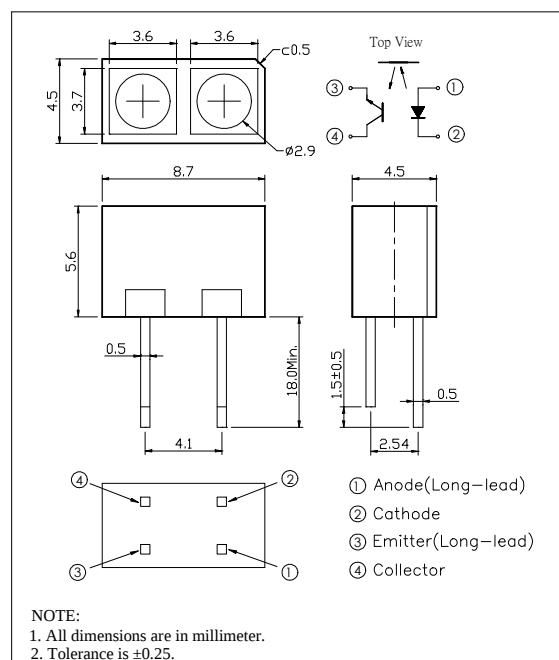
Features

- Fast response time
- High sensitivity
- Cut-off visible wavelength $\lambda = 840\text{nm}$
- High analytic

Applications

- For Direct PC Board
- Mouse Copier
- Non-contact Switching
- Switch Scanner

Outline dimensions



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Absolute Maximum Ratings (Ambient Temperature: 25°C)

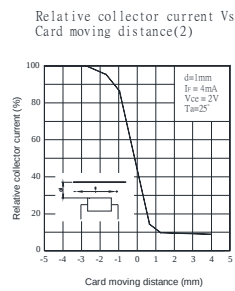
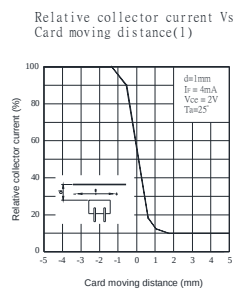
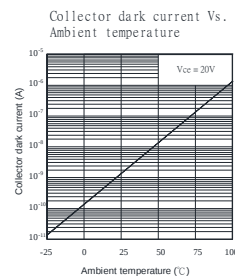
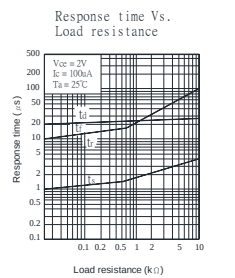
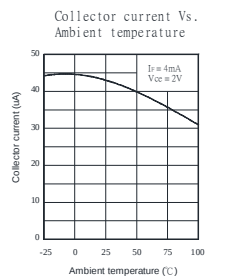
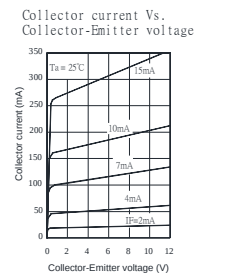
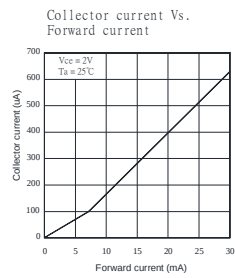
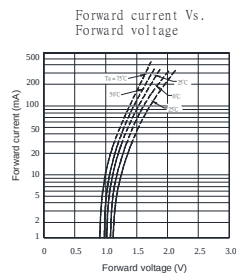
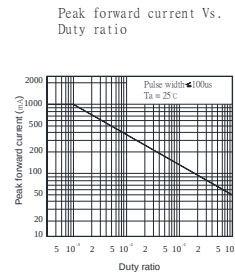
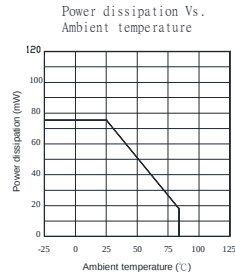
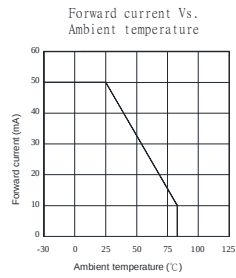
Item		Symbol	Rating	Units	Note
Input	Forward current	I _F	60	mA	
	Reverse voltage	V _R	5	V	
	Peak forward current	I _{FP}	1	A	T _w =10 μs, t=10ms
	Power dissipation	P _d	160	mW	
Output	Collector current	I _c	20	mA	
	Collector-Emitter voltage	V _{ceo}	30	V	
	Emitter-Collector voltage	V _{eco}	5	V	
	Collector power dissipation	P _c	100	mW	
Storage Temperature		T _{stg}	-40 to +85	°C	
Operating Temperature		T _{op}	-25 to +85	°C	
Soldering Temperature		T _{sol}	260	°C	5 seconds max.

Electrical Specifications (Ambient Temperature: 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	Forward voltage	V _F		1.2	1.5	V	I _F =20mA
	Reverse current	I _R			10	μA	V _R =5V
	Peak wavelength	λ _p		940		nm	
	View angle	2 θ 1/2		35		Deg.	I _F =20mA
Output	Dark current	I _{ceo}			100	nA	V _{ce} =20V
	C-E saturation voltage	V _{ce(sat)}			0.4	V	I _c =2mA, I _B =0.1mA
Light current		I _{c(on)}	0.2			mA	V _{ce} =5V I _F =20mA
Leakage current		I _{Leak}			1	μA	
Speed	Rise Time	t _r		15		μs	V _{ce} =5V I _c =1mA R _L =1KΩ
	Fall Time	t _f		15			

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Reference Data



Test circuit for response time

