

# Photointerrupter

## Model No: LBT-131

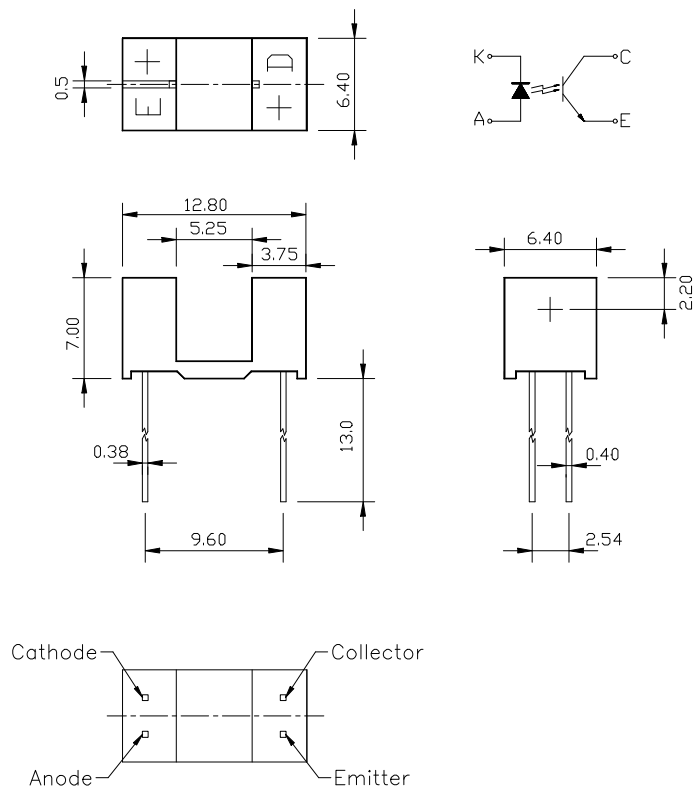
### Features

- Compact package based on the double-mold method.
- High resolution (slit width = 0.5mm).
- Gap between emitter and detector is 5.25mm.

### Applications

- Floppy disk drives
- Printers
- Cameras

### Outline Dimensions (Unit: mm)



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## Absolute Maximum Ratings (Ambient Temperature: 25°C)

Item		Symbol	Rating	Units	Note
Input	Forward current	I <sub>F</sub>	50	mA	
	Reverse voltage	V <sub>R</sub>	5	V	
	Peak forward current	I <sub>FP</sub>	1	A	T <sub>w</sub> =10 μs, t=10ms
	Power dissipation	P <sub>d</sub>	75	mW	
Output	Collector current	I <sub>c</sub>	50	mA	
	Collector-Emitter voltage	V <sub>ceo</sub>	30	V	
	Emitter-Collector voltage	V <sub>eco</sub>	5	V	
	Collector power dissipation	P <sub>c</sub>	100	mW	
Storage Temperature		T <sub>stg</sub>	-40 to +85	°C	
Operating Temperature		T <sub>op</sub>	-25 to +85	°C	
Soldering Temperature		T <sub>sol</sub>	260	°C	5 seconds max.

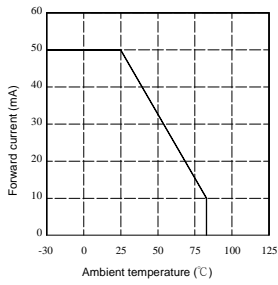
## Electrical Specifications (Ambient Temperature: 25°C)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	Forward voltage	V <sub>F</sub>		1.2	1.4	V	I <sub>F</sub> =20mA
	Reverse current	I <sub>R</sub>			10	μA	V <sub>R</sub> =5V
	Peak wavelength	λ <sub>p</sub>		940		nm	
	View angle	2θ 1/2		35		Deg.	I <sub>F</sub> =20mA
Output	Dark current	I <sub>ceo</sub>			100	nA	V <sub>ce</sub> =20V
	C-E saturation voltage	V <sub>ce(sat)</sub>			0.4	μA	I <sub>c</sub> =2mA, I <sub>B</sub> =0.1mA
Light current		I <sub>c(on)</sub>	0.5			mA	V <sub>ce</sub> =5V I <sub>F</sub> =20mA
Leakage current		I <sub>leak</sub>			1	μA	
Speed	Rise Time	t <sub>r</sub>		5		μs	V <sub>ce</sub> =5V I <sub>c</sub> =1mA R <sub>L</sub> =1KΩ
	Fall Time	t <sub>f</sub>		5			

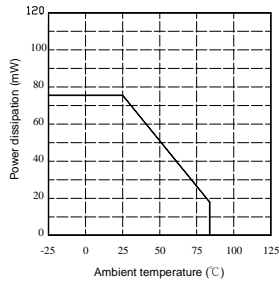
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## Reference Data

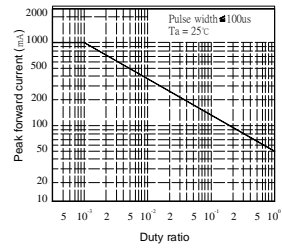
Forward current Vs. Ambient temperature



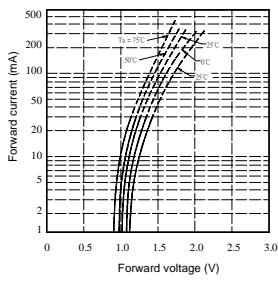
Power dissipation Vs. Ambient temperature



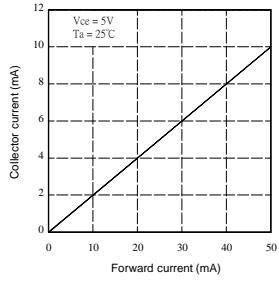
Peak forward current Vs. Duty ratio



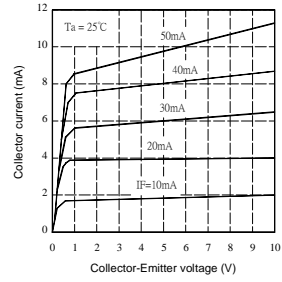
Forward current Vs. Forward voltage



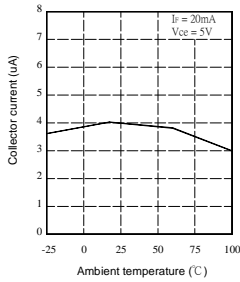
Collector current Vs. Forward current



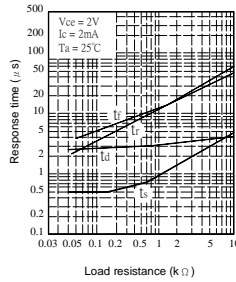
Collector current Vs. Collector-Emitter voltage



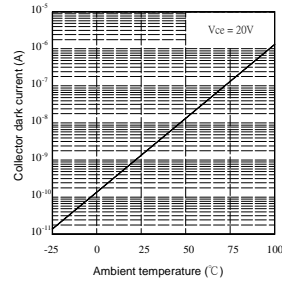
Collector current Vs. Ambient temperature



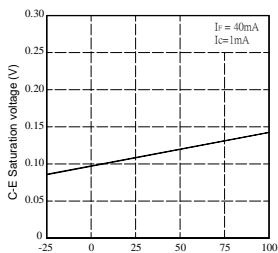
Response time Vs. Load resistance



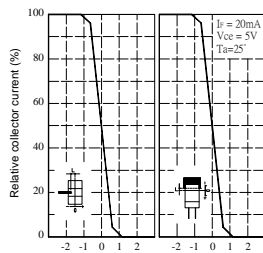
Collector dark current Vs. Ambient temperature



C-E Saturation voltage Vs. Ambient temperature



Relative collector current Vs. Shield distance



Test circuit for response time

