

Subminiature Photointerrupter

Model No: LBT-124

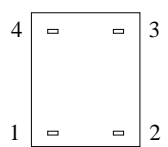
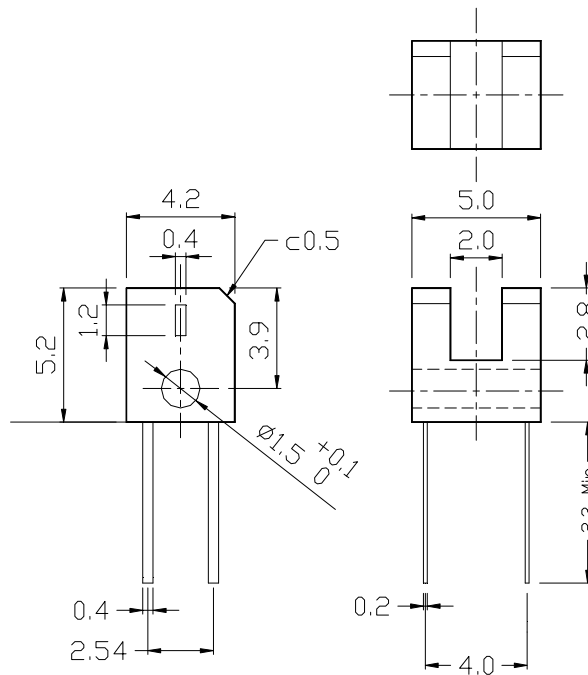
Features

- Compact package based on the double-mold method.
- High resolution (slit width = 0.4mm).
- Gap between emitter and detector is 2.0mm.

Applications

- Floppy disk drives
- Printers
- Cameras

Outline Dimensions (Unit: mm)



- 1 Anode
- 2 Cathode
- 3 Emitter
- 4 Collector

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Absolute Maximum Ratings (Ambient Temperature: 25°C)

Item		Symbol	Rating	Units	Note
Input	Forward current	IF	50	mA	
	Reverse voltage	VR	5	V	
	Power dissipation	PD	75	mW	
Output	Collector-emitter voltage	Vceo	30	V	
	Emitter-collector voltage	Veco	4.5	V	
	Collector power dissipation	PC	80	mW	
Storage Temperature		Tstg	-40 to +100	°C	
Operating Temperature		Top	-25 to +85	°C	
Soldering Temperature		Tsol	260	°C	10 seconds max.

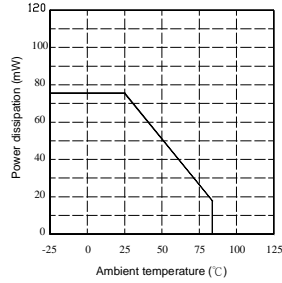
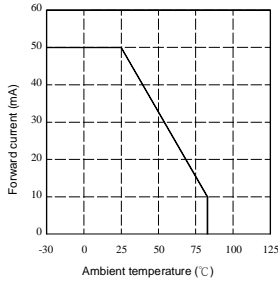
Electrical Specifications (Ambient Temperature: 25°C)

Item		Symbol	Min.	Typ.	Max.	Units	Conditions
Input	Forward voltage	VF		1.3	1.6	V	IF=50mA
	Peak forward voltage	VFM		3	4	V	IFM=0.5A
	Reverse current	IR			10	μA	VR=5V
Output	Collector dark current	Iceo			0.5	μA	Vce=10V
	Peak sensitivity wavelength	λP		800		nm	
	Collector-emitter breakdown voltage	BVceo	30			V	Ice=50μA
	Emitter-collector breakdown voltage	BVeco	4.5			V	Iec=50μA
Combination	Collector current	Ic	0.2	1.0		mA	Vce=5V, IF=20mA
	Collector-emitter saturation voltage	Vce(sat)			0.4	V	IF=20mA, Ic=0.1A
	Response time	Tr/tf		10		μs	IF=5mA, Vcc=5V, RL=100Ω
Infrared light emitter diode	Cut-off frequency	fc		1		MHz	IF=50mA
	Peak light emitting wavelength	λP		950		nm	
Photo transistor	Response time	Tr/tf		10		μs	Vcc=5V, Ic=1mA, RL=100Ω
	Maximum sensitivity wavelength	λP		800		nm	

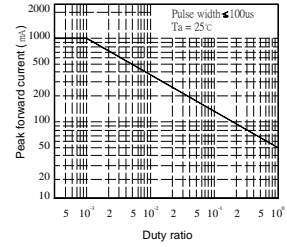
Subminiature Photointerrupter

Reference Data

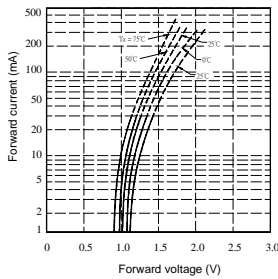
Forward current Vs. Ambient temperature



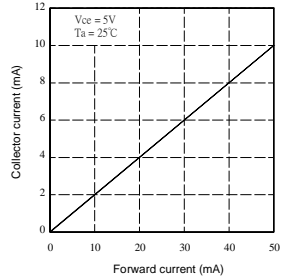
Peak forward current Vs. Duty ratio



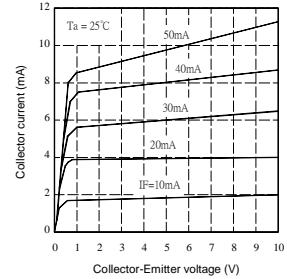
Forward current Vs. Forward voltage



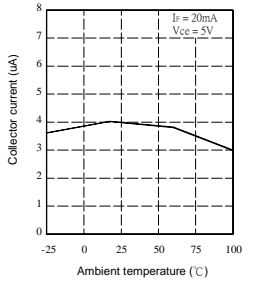
Collector current Vs. Forward current



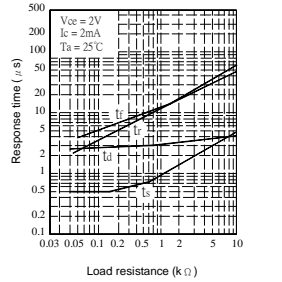
Collector current Vs. Collector-Emitter voltage



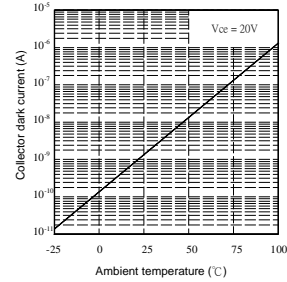
Collector current Vs. Ambient temperature



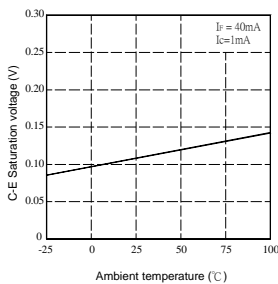
Response time Vs. Load resistance



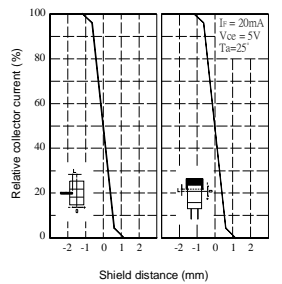
Collector dark current Vs. Ambient temperature



C-E Saturation voltage Vs. Ambient temperature



Relative collector current Vs. Shield distance



Test circuit for response time

