Subminiature Photointerrupter

Model No: LBT-125

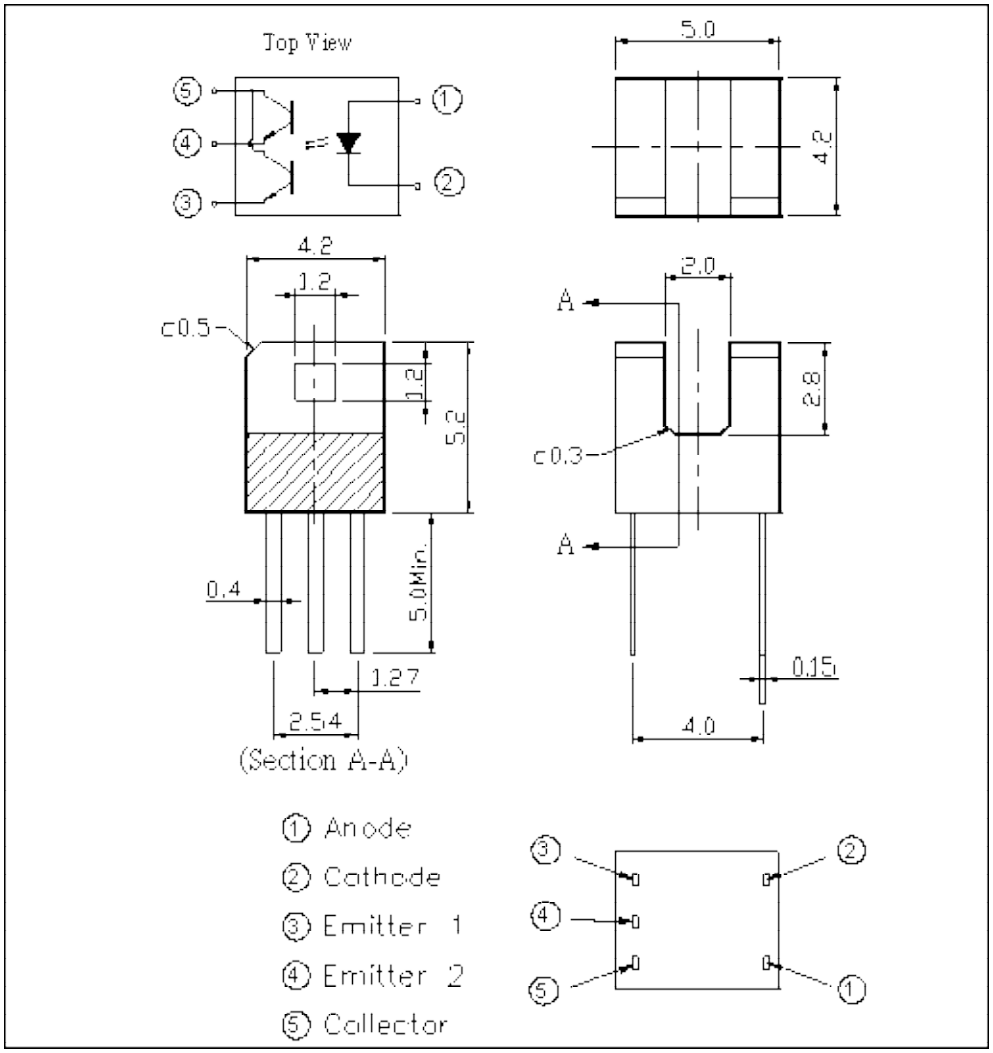
Features

- Compact package based on the double-mold method.
- High resolution (slit width = 1.2mm).
- Gap between emitter and detector is 2.0mm.

Applications

- Floppy disk drives
- Printers
- Cameras

Outline Dimensions (Unit: mm)



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Absolute Maximum Ratings (Ambient Temperature: 25℃)

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	Tw=10 μs, t=10ms
	Power dissipation	Pd	75	mW	
Output	Collector current	Ic	50	mA	
	Collector-Emitter voltage	Vceo	30	V	
	Emitter-Collector voltage	Veco	5	V	
	Collector power dissipation	P_c	100	mW	
Storage Temperature		Tstg	-40 to +85	℃	
Operating Temperature		Top	-25 to +85	℃	
Soldering Temperature		Tsol	260	℃	5 seconds max.

Electrical Specifications (Ambient Temperature: 25℃)

Item		Symbol	MIN.	TYP.	MAX.	Units	Conditions
Input	Forward voltage	V_F		1.2	1.4	V	IF=20mA
	Reverse current	I_R			10	μA	VR=5V
	Peak wavelength	λp		940		nm	
	View angle	2θ1/2		35		Deg.	IF=20mA
Output	Dark current	Iceo			100	nA	Vce=20V
	C-E saturation voltage	Vce(sat)			0.4	V	Ic=2mA, IB=0.1mA
Light current		Ic(on)	0.5			mA	Vce=5V IF=20mA
Leakage current		I_{Leak}			1	μA	
Speed	Rise Time	tr		5		μs	Vce=5V Ic=1mA RL=1KΩ
	Fall Time	tf		5			

Subminiature Photointerrupter

Reference Data

Fig.1 Forward Current vs. Ambient Temperature

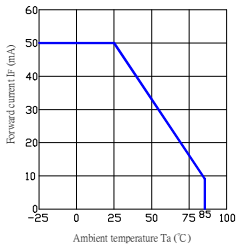


Fig.2 Collector Power Dissipation vs. Ambient Temperature

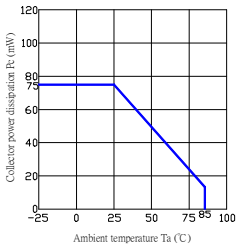


Fig.7 Collector Current vs. Ambient Temperature

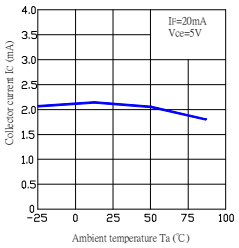


Fig.8 Collector-Emitter Saturation Voltage vs. Ambient Temperature

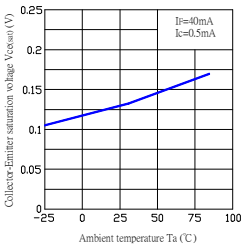


Fig.3 Peak Forward Current vs. Duty Ratio

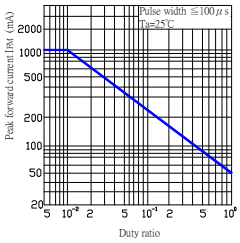


Fig.4 Forward Current vs. Forward Voltage

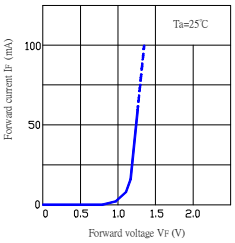


Fig.9 Response Time vs. Load Resistance

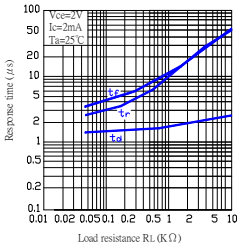


Fig.10 Collector Dark Current vs. Ambient Temperature

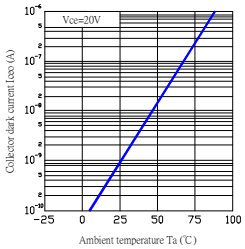


Fig.5 Collector Current vs. Forward Current

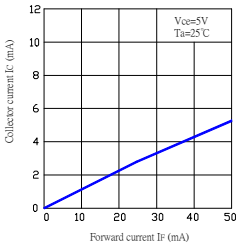


Fig.6 Collector Current vs. Collector-Emitter Voltage

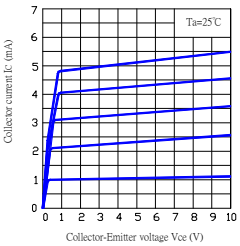
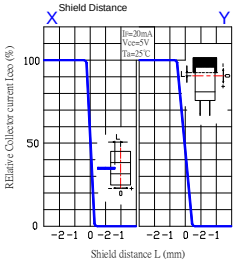


Fig.11 Relative Collector Current vs. Shield Distance



Test Circuit for Response Time