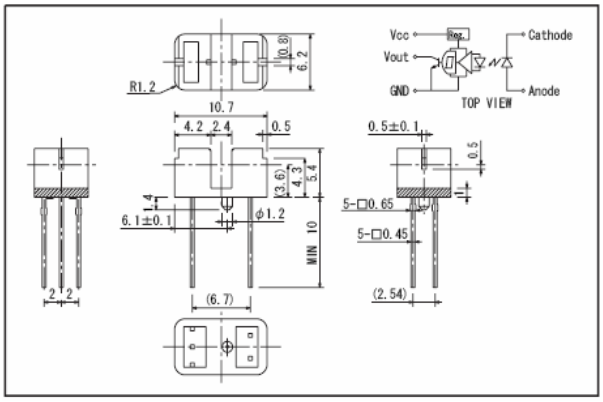
PhotoInterrupter(Transimissive)

KODENSHI

LG209D

The LG209D photointerrupter combine high output GaAs IRED with Photo IC. The sensor makes possible easy development of object detecting systems with high performance,high reliability and small equipment size.

DIMENSIONS (Unit : mm)



FEATURES

- PWB direct mount type
- GAP：2.4mm
- With the installation positioning boss
- Low-boy type（installation height：5.4mm）

APPLICATIONS

- Printers
- Facsimiles
- Vending machines
- Amusement machines

MAXIMUM RATINGS (Ta=25°C)

Item		Symbol	Rating	Unit
Input	Power dissipation	P_D	100	mW
	Forward current	I_F	60	mA
	Reverse voltage	V_R	5	V
	Pulse forward current *1	I_{FP}	1	A
Output	Supply voltage	V_{CC}	17	V
	Low level output current	I_{OL}	30	mA
	Power dissipation	P_O	200	mW
Operating temp. *2		Topr.	-20 ~ +85	°C
Storage temp. *2		Tstg.	-30 ~ +85	°C
Soldering temp. *3		Tsol.	260	°C

*1. Pulse width : tw≤100us. period T=10ms

*2. No icebound or dew *3. For MAX. 5 seconds at the position of 1mm from the resin edge.

ELECTRO-OPTICAL CHARACTERISTICS (Ta=25°C)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V_F	I_F=20mA	-	1.2	1.4	V
	Reverse current	I_R	V_R=5V	-	-	10	μA
	Peak wavelength	λ_p	I_F=20mA	-	940	-	nm
Output	Operating supply voltage	V_{CC}	-	4.5	-	16.5	V
	Low level output voltage	V_{OL}	V_{CC}=5V,I_F=0mA,I_{OL}=16mA	-	0.3	0.4	V
	High level output voltage	V_{OH}	V_{CC}=5V,I_F=20mA,R_L=10kΩ	4.5	-	-	V
	Low level supply current	I_{CCL}	V_{CC}=5V,I_F=0mA	-	3	10	mA
	High level supply current	I_{CCH}	V_{CC}=5V,I_F=20mA	-	2	10	mA
Trans-mission	L→H threshold input current *4	I_{FLH}	V_{CC}=5V,R_L=10kΩ	-	5	12	mA
	Hysteresis *5	I_{FHL} /I_{FLH}	V_{CC}=5V,R_L=10kΩ	0.60	0.83	0.98	-
	H→L propagation time	t_{PHL}	V_{CC}=5V,I_F=18mA,R_L=3.3kΩ	-	1	-	μs
	L→H propagation time	t_{PLH}		-	3	-	μs
Rise time		tr		-	0.6	-	μs
Fall time		tf		-	0.02	-	μs

*4. I_{FHL} represents forward current when output changes from high to low.

*5. I_{FLH} represents forward current when output changes from low to high.

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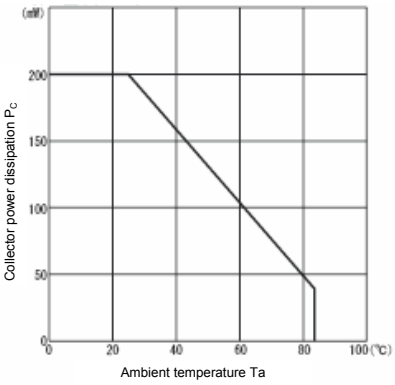
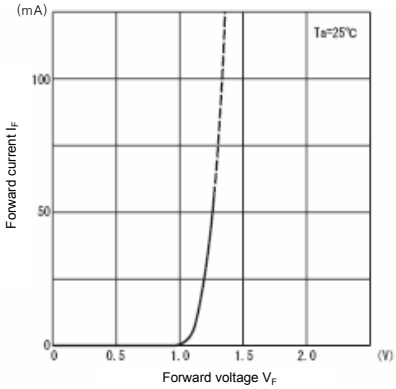
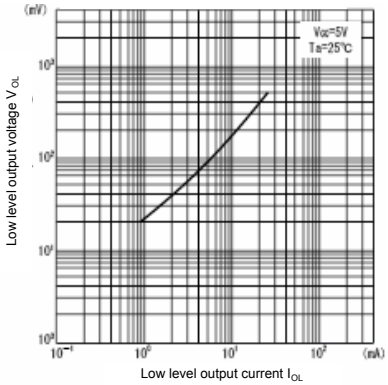
Collector power dissipation Vs. Ambient temperature



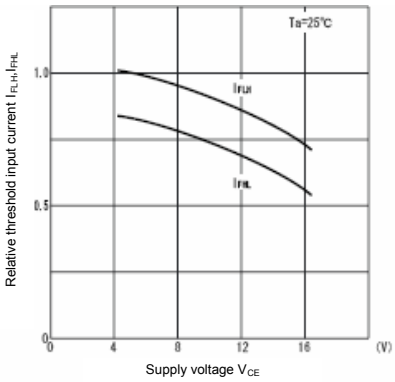
Forward current Vs. Forward voltage



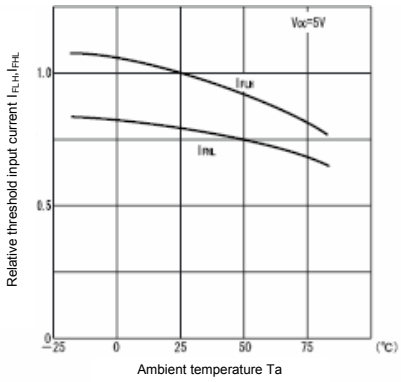
Low level output voltage Vs. Low level output current



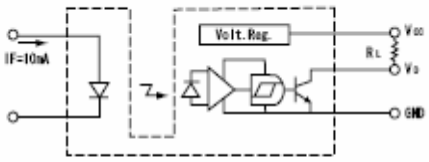
Relative threshold input current Vs. Supply voltage



Relative threshold input current Vs. Ambient temperature



Measurement of high level output voltage



Measurement of propagation time