

# KOI-6006B

## Features

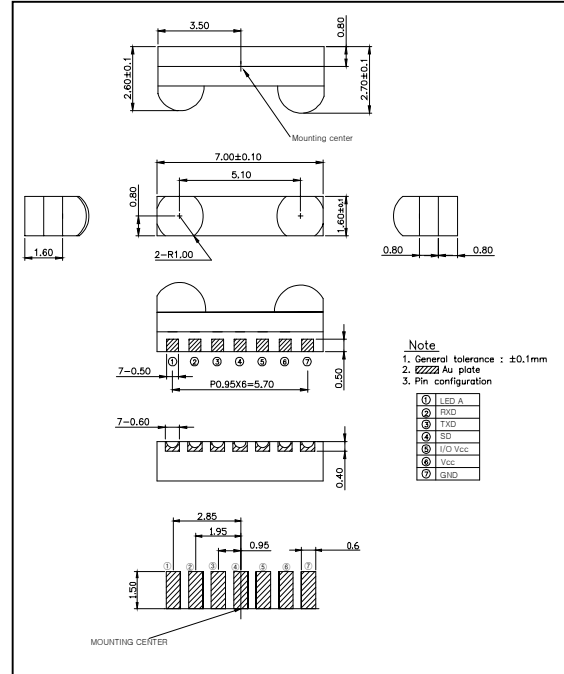
- Compliant to IrDA 1.4 Low Power Standard
- Wide Voltage Operation : 2.4 ~ 3.6V
- Compact Package Integrated Transmitter and Receiver (7.0L x 2.75W x 1.6T)
- Complete Power Down Mode for the Current Consumption.
- Lead-free & High reliability package
- LED Stuck-high Protection

## Applications

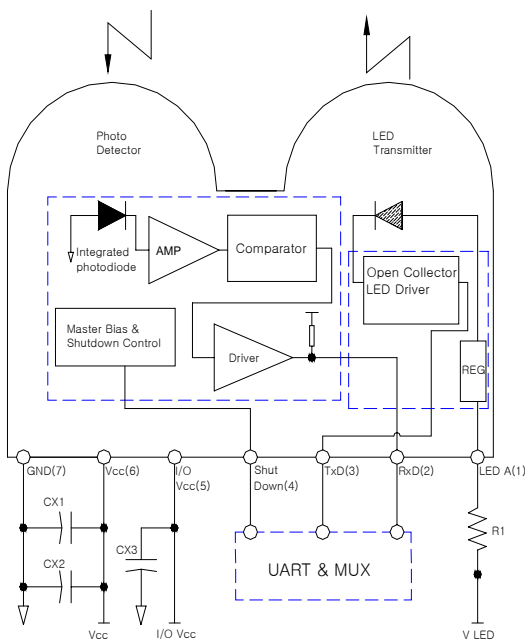
- Cellular Phone
- Personal Computer(Desk-top PC, Lap-top PC)
- Printers, Vending Machine, ATM
- Personal Digital Assistants.(PDA)

## Dimensions

(Unit : mm)



## Block Diagram



Component	Resistor Value	LED Voltage
R1	2.7 Ω ±5%, 0.0625Watt	VLED = 2.4 V
	3.3 Ω ±5%, 0.0625Watt	VLED = 2.7 V
	4.7 Ω ±5%, 0.0625Watt	VLED = 3.0 V
	5.6 Ω ±5%, 0.0625Watt	3.0V < VLED < 3.6V
	6.8 Ω ±5%, 0.0625Watt	VLED = 3.6 V
	10 Ω ±5%, 0.0625Watt	3.0V < VLED < 4.2V
CX1,CX3	0.47uF ±20% Ceramic	
CX2	6.8uF ±20% Tantalum or Ceramic	

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## Absolute Maximum Ratings

[Ta = 25 °C ]

Parameter	Symbol	Conditions	Min.	Max.	Unit
Supply Voltage	V <sub>CC</sub>	-	0	6.5	V
LED Supply Voltage	V <sub>LED</sub>	-	0	6.0	V
Operating Temperature	T <sub>opr.</sub>	-	-20	85	°C
Storage Temperature	T <sub>stg.</sub>	-	-40	100	°C
DC LED Transmit Current	I <sub>LED (DC)</sub>	-	-	50	mA
Peak LED Transmit Current	I <sub>LED (PK)</sub>	<90µs pulse width, <20% duty cycle	-	200	mA
Receiver Data Output Voltage	V <sub>RxD</sub>	-	-0.5	V <sub>CC</sub> +0.5	V
Transmitter Data Input Voltage	V <sub>TxD</sub>	-	-0.5	V <sub>CC</sub> +0.5	V
Data Rate	BR	-	9.6	115.2	Kbit/s

## 4. Electro-Optical Characteristics

[Ta=25 °C , V<sub>CC</sub>=3.3V]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Supply Current	I <sub>CC1</sub>	Shutdown	-	-	0.5	µA	
	I <sub>CC2</sub>	Idle	-	90	150	µA	
Transmitter	Transmitter Wakeup Time	T <sub>tw</sub>	-	15	20	µs	
	Viewing Angle	2θ <sub>1/2</sub>	30	-	60	deg.	
	Data Output Pulse Width	T <sub>stp</sub> w	tpw(RxD)=1.63µs at 115.2kbit/s	1.6	1.7	1.8	µs
	Rise Time	t <sub>r</sub>	BR=115.2kbit/s	-	50	100	ns
	Fall Time	t <sub>f</sub>		-	100	150	ns
	Peak Emission Wavelength	λ <sub>p</sub>	-	-	875	-	nm
	Spectral Bandwidth	Δλ	-	-	45	-	nm
Receiver	Viewing Angle	2θ <sub>1/2</sub>	30	-	60	deg.	
	Peak Sensitivity Wavelength	λ <sub>p</sub>	-	880	-	nm	
	High Level Output Voltage	V <sub>OH</sub>	I <sub>OH</sub> =-20µA	V <sub>CC</sub> -0.2	-	-	V
	Low Level Output Voltage	V <sub>OL</sub>	I <sub>OL</sub> =1mA	-	-	0.4	V
	Rx SIR Pulse Width	T <sub>srp</sub> w	tpw(RxD)=1.63µs at 115.2kbit/s	1	2.2	4	µs
	Rise Time	t <sub>r</sub>	BR=115.2kbit/s	-	50	100	ns
	Fall Time	t <sub>f</sub>		-	50	100	ns
	Communication Distance	D		20	60	-	cm
	Receiver Latency Time	TL		-	60	200	µs
Receiver Wakeup Time	T <sub>rw</sub>		-	50	100	µs	