KOI-6102B

Features

▶ Infrared Data Features

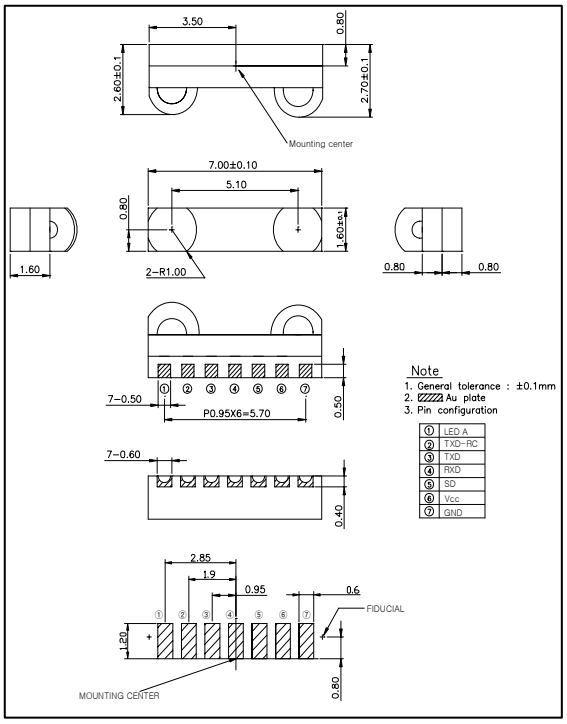
- Small footprint surface mount package
  - No shield case : 1.60 H x 2.70 W x 7.00 L
- Operating Voltage(Vcc) from 2.4 V to 3.6 V
- Low Shutdown current below 4nA (typ.)
- Built-in " stuck at one" LED Protection
- Typical link distance up to 1m
- Lead-free & High reliability package

▶ Remote Control Features

- Wide beam angle and high radiant intensity for remote control
- Typical link distance up to 8m

Dimensions

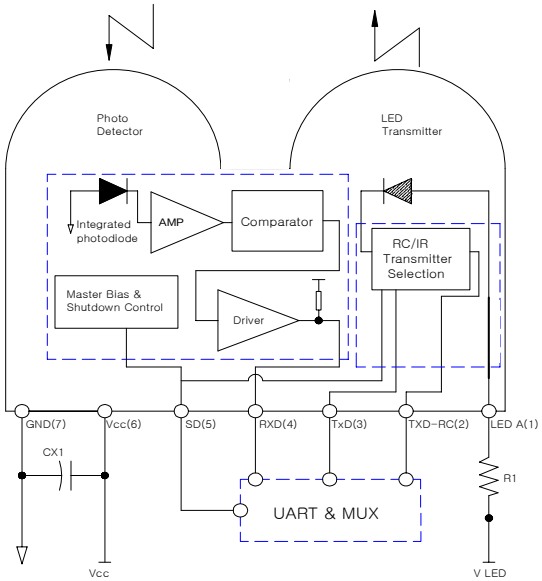
(Unit : mm)



Applications

- Cellular Phones(both CDMA & GSM based)
- PDAs, PDA Phones, Smart Phones
- POS Terminals(ex. IrFM dongles)
- Tablet, Notebook, Desktop PCs
- Portable Printers(for photos of Camera Phones), Inkjet & Laser Printers
- Digital Cameras
- KIOSKs, Vending Machines, ATMs
- Handheld devices for remote control function

■ Block Diagram



KOI-6102B

Absolute Maximum Ratings

[Ta = 25℃]

Parameter	Symbol	Conditions	Min.	Max.	Unit
Supply Voltage	V_{cc}	-	0	7.0	V
LED Supply Voltage	V_{LED}	-	0	7.0	V
Operating Temperature	Topr.	-	-25	85	℃
Storage Temperature	Tstg.	-	-40	100	℃
DC LED Transmit Current	I_{LED} (DC)	VLED=Vcc= 3.0V	-	50	mA
Peak LED Transmit Current	I_{LED} (PK)	<90㎲ pulse width, <20% duty cycle	-	250	mA
DC LED Transmit Current (IrRC)	I_{LED} (DC)	VLED=Vcc= 3.0V		75	mA
Peak LED Transmit Current	I_{LED} (PK)	Remote Control Mode	-	400	mA
Receiver Data Output Voltage	V_{RXD}	-	-0.5	V_{CC}+0.5	V
Transmitter Data Input Voltage	V_{TXD}	-	-0.5	V_{CC}+0.5	V

Electro-Optical Characteristics

[Ta=25℃, V_{cc}=3.3V]

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Current		Icc1	Shutdown	-	0.001	0.5	㎂
		Icc2	Idle	-	140	200	㎂
		Icc3	Active Receiver	-	170	800	㎂
Transmitter	TXD Hold Time	T_h	-	25.0	-	-	ns
	TXD Setup Time	T_s	-	25.0	-	-	ns
	TXD Pulse Width	T_w	-	25.0	-	-	ns
	Shutdown Pulse Width	T_{sd}	-	25.0	-	-	ns
	TXD Wakeup Time	T_{tw}	-	-	15.0	20	㎲
	Viewing Angle	$2\Theta_{1/2}$	-	30	-	60	deg.
	Data Output Pulse Width	Tstpw	tpw(TXD)=1.63㎲ at 115.2kbit/s	1.5	1.9	2.0	㎲
	Rise Time	tr	tpw(TXD)=1.63㎲ at 115.2kbit/s	-	50	100	ns
	Fall Time	tf		-	100	150	ns
	Radiant Intensity (IrDA Mode)	IE1	R1 = 4.7Ω	5	8	-	mW/sr
	Radiant Intensity (RC Mode)	IE2	R1 = 4.7Ω	-	12	-	mW/sr
	Peak Emission Wavelength	λp	-	-	875	-	nm
	Spectral Bandwidth	△λ	-	-	45	-	nm
Receiver	Viewing Angle	$2_{\Theta 1/2}$	-	30	-	60	deg.
	Peak Sensitivity Wavelength	λp	-	-	880	-	nm
	High Level Output Voltage	V_{OH}	I_{OH}=-200 ㎂	2/3 VIO	-	Vcc	V
	Low Level Ouput Voltage	V_{OL}	I_{OL}=200 ㎂	-	-	1/3 VIO	V
	Rx SIR Pulse Width	Tsrpw	tpw(TxD)=1.63㎲ at 115.2kbit/s	1.4	2.2	4.0	㎲
	Rise Time	tr	tpw(TXD)=1.63㎲ at 115.2kbit/s	-	50	100	ns
	Fall Time	tf		-	50	100	ns
	Communication Distance (SIR)	D		0.3	0.6	-	m
	Receiver Latency Time	TL	-	-	60	200	㎲
	Receiver Wakeup Time	Trw	-	-	50	100	㎲