

KOI-6102BS

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

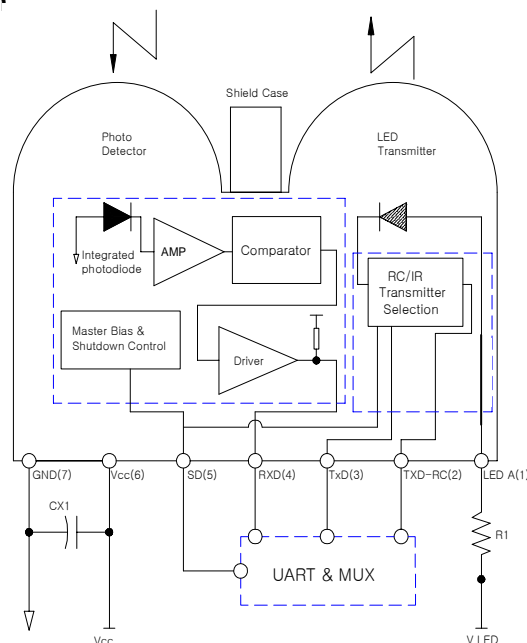
► Remote Control Features

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

Applications

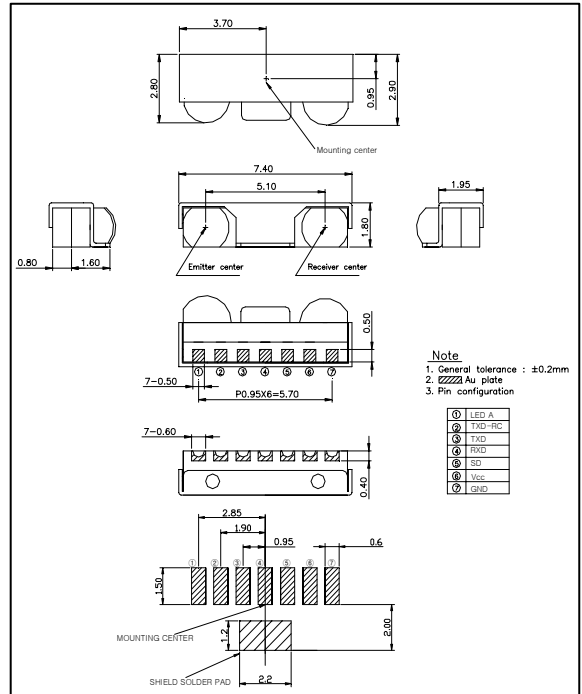
- Cellular Phones(both CDMA & GSM based)
- PDAs, PDA Phones, Smart Phones
- POS Terminals(ex. IrFM dongles)
- Tablet, Notebook, Desktop PCs
- Portable Printers(for photos of Camera Phones), Inkjet & Laser Printers
- Digital Cameras
- KIOSKs, Vending Machines, ATMs
- Handheld devices for remote control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

■ Block Diagram



Dimensions

(Unit : mm)



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Absolute Maximum Ratings

[Ta = 25°C]

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	T _{opr.}	-	-25	85	°C
Storage Temperature	T _{stg.}	-	-40	100	°C
DC LED Transmit Current	I _{LED} (DC)	V _{LED} =V _{CC} = 3.0V	-	50	mA
Peak LED Transmit Current	I _{LED} (PK)	<90µs pulse width, <20% duty cycle	-	250	mA
DC LED Transmit Current (IrRC)	I _{LED} (DC)	V _{LED} =V _{CC} = 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 °C , V_{CC}=3.3V]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Supply Current	I _{CC1}	Shutdown	-	0.001	0.5	µA	
	I _{CC2}	Idle	-	140	200	µA	
	I _{CC3}	Active Receiver	-	170	800	µA	
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	µs
	Viewing Angle	2θ _{1/2}	-	30	-	60	deg.
	Data Output Pulse Width	T _{stp} w	tpw(TXD)=1.63µs at 115.2kbit/s	1.5	1.9	2.0	µs
	Rise Time	tr	tpw(TXD)=1.63µs 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	λ _P	-	-	875	-	nm
	Spectral Bandwidth	Δλ	-	-	45	-	nm
Receiver	Viewing Angle	2θ _{1/2}	-	30	-	60	deg.
	Peak Sensitivity Wavelength	λ _P	-	-	880	-	nm
	High Level Output Voltage	V _{OH}	I _{OH} =-200 µA	2/3 V _{IO}	-	V _{CC}	V
	Low Level Output Voltage	V _{OL}	I _{OL} =200 µA	-	-	1/3 V _{IO}	V
	Rx SIR Pulse Width	T _{sr} pw	tpw(TxD)=1.63µs at 115.2kbit/s	1.4	2.2	4.0	µs
	Rise Time	tr	tpw(TXD)=1.63µs 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	µs	
Receiver Wakeup Time	T _{rw}	-	-	50	100	µs	