

IR Transceiver Module



KOI-6002A

Features

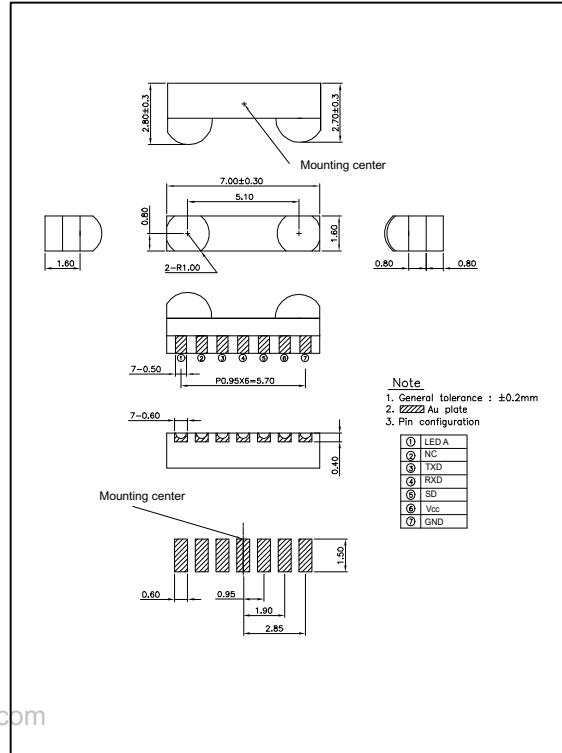
- Compliant to IrDA 1.4 Low Power Standard
- Wide Voltage Operation : 2.7 ~ 5.5V
- Compact Package Integrated Transmitter and Receiver (7.0L × 2.8W × 1.6T)
- Complete Power Down Mode for the Current Consumption.
- LED Stuck-high Protection

Applications

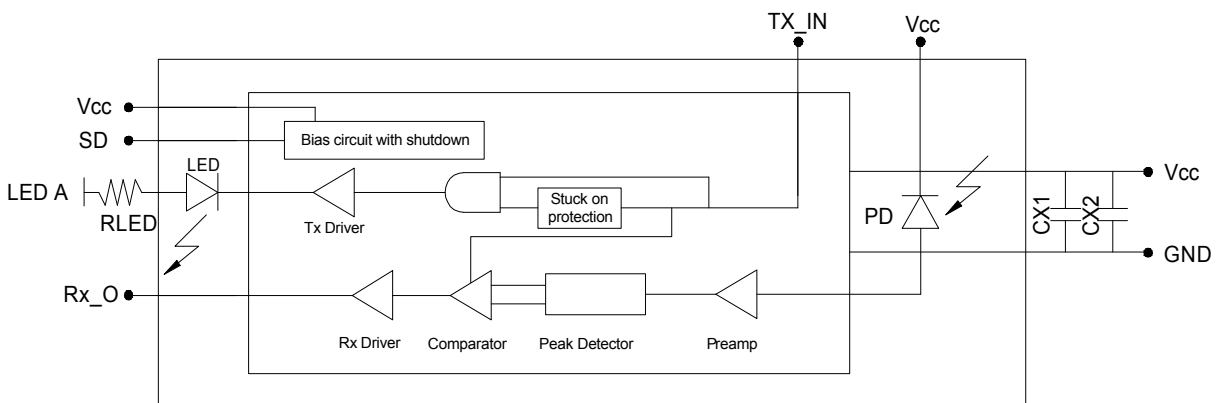
- Cellular Phone
- Personal Computer(Desk-top PC, Lap-top PC)
- Printers, Vending Machine, ATM
- Personal Digital Assistants.(PDA)

Dimensions

(Unit :mm)



Block Diagram



RLED 20Ω ± 0.5%, 0.5 Watt, Vcc=2.7V
 RLED 30Ω ± 0.5%, 0.5 Watt, Vcc=3.3V
 RLED 60Ω ± 0.5%, 0.5 Watt, Vcc=5V
 CX1 0.47 μF ± 20%, Ceramic : CX2 4.7 μF ± 20%, Tantalum
 CX1, CX2 must be placed 7mm of the KOI-6002A

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Absolute Maximum Ratings

[Ta = 25°C]

Parameter	Symbol	Conditions	Min.	Max.	Unit
Supply Voltage	V_{CC}	-	0	6.5	V
LED Supply Voltage	V_{LED}	-	0	6.0	V
Operating Temperature	Topr.	-	-20	85	°C
Storage Temperature	Tstg.	-	-40	100	°C
DC LED Transmit Current	I_{LED} (DC)	-	-	50	mA
Peak LED Transmit Current	I_{LED} (PK)	<90 μ s pulse width, <20% duty cycle	-	200	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
Data Rate	BR	-	9.6	115.2	Kbps

Electro-Optical Characteristics

[Ta=25°C, Vcc=3.3V]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Supply Current	Icc1	Shutdown	-	-	1	μ A	
	Icc2	Idle	-	100	200	μ A	
Transmitter	Transmitter Wakeup Time	Ttw	-	30	200	μ s	
	Viewing Angle	$2\theta_{12}$	-	30	60	deg.	
	Data Output Pulse Width	Tstp	tpw(RxD)=1.63 μ s at 115.2kb/s	1.6	1.7	1.9	μ s
	Rise Time	tr	BR=115.2kbps	-	-	600	ns
	Fall Time	tf		-	-	600	ns
	Peak Emission Wavelength	λ_p	-	-	875	-	nm
	Spectral Bandwidth	$\Delta\lambda$	-	-	45	-	nm
Receiver	Viewing Angle	$2\theta_{12}$	-	30	-	deg.	
	Peak Sensitivity Wavelength	λ_p	-	880	-	nm	
	High Level Output Voltage	V_{OH}	$I_{OH}=-20\mu$ A	$V_{CC}-0.2$	-	-	V
	Low Level Output Voltage	V_{OL}	$I_{OL}=1$ mA	-	-	0.4	V
	Rx SIR Pulse Width	Tsrpw	tpw(RxD)=1.63 μ s at 115.2kb/s	1	-	4	μ s
	Rise Time	tr	BR=115.2kbps	-	-	600	ns
	Fall Time	tf		-	-	600	ns
	Communication Distance	D		20	-	-	cm
	Receiver Latency Time	TL		-	-	100	μ s
Receiver Wakeup Time	Trw		-	150	-	μ s	