

KOI-6001C

Features

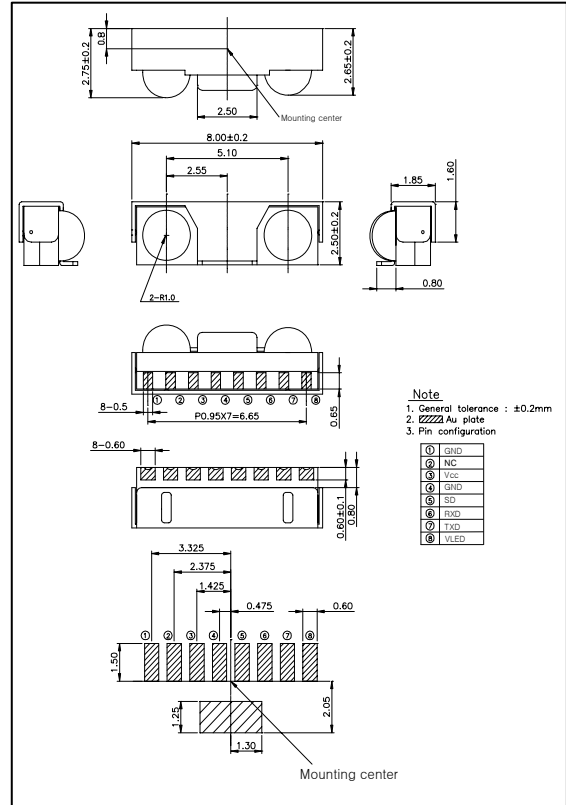
- Compliant to IrDA 1.4 Low Power Standard
- Wide Voltage Operation : 2.7 ~ 5.5V
- Compact Package Integrated Transmitter and Receiver (8.0L x 2.75W x 2.5T)
- Complete Power Down Mode for the Current Consumption.
- Shielded Package for Preventing EMI
- LED Stuck-high Protection
- Lead-free & High reliability package

Applications

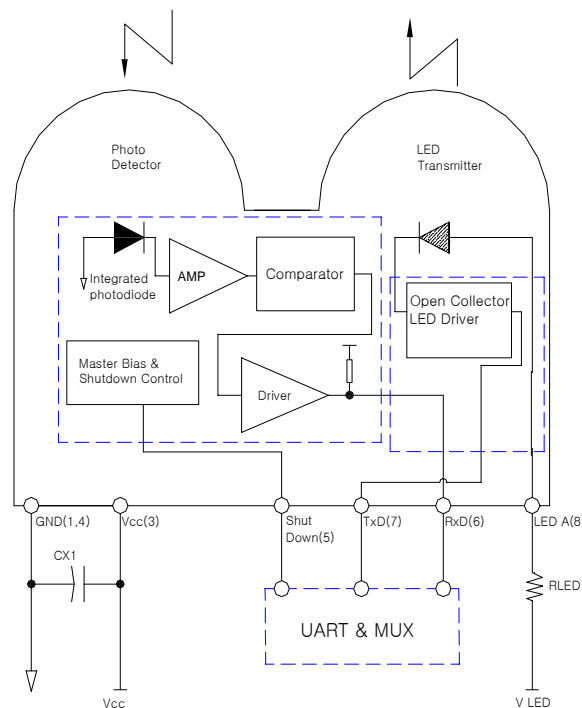
- Cellular Phone
- Personal Computer(Desk-top PC, Lap-top PC)
- Printers, Vending Machine, ATM
- Personal Digital Assistants.(PDA)

Dimensions

(Unit : mm)



Block Diagram



KOI-6001C

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 | T _{opr.} | - | -20 | 85 | °C |
| Storage Temperature | T _{stg.} | - | -40 | 100 | °C |
| DC LED Transmit Current | I _{LED (DC)} | - | - | 50 | mA |
| Peak LED Transmit Current | I _{LED (PK)} | <90µs 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 | kbit/s |

4. Electro-Optical Characteristics

[Ta=25 °C , V_{CC}=3.3V]

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit | |
|----------------------|-----------------------------|--------------------|--------------------------------|---------------------|------|---------------------|----|
| Supply Current | I _{cc1} | Shutdown | - | - | 1 | µA | |
| | I _{cc2} | Idle | - | 110 | 200 | µA | |
| Transmitter | Transmitter Wakeup Time | T _{tw} | - | 30 | 200 | µs | |
| | Viewing Angle | 2θ _{1/2} | 30 | - | 60 | deg. | |
| | Data Output Pulse Width | T _{stp} w | tpw(RxD)=1.63µs at 115.2kbit/s | 1.5 | 1.7 | 1.9 | µs |
| | Rise Time | t _r | BR=115.2kbit/s | - | 80 | 200 | ns |
| | Fall Time | t _f | | - | 80 | 200 | ns |
| | Peak Emission Wavelength | λ _p | - | - | 875 | - | nm |
| | Spectral Bandwidth | Δλ | - | - | 45 | - | nm |
| Receiver | Viewing Angle | 2θ _{1/2} | 30 | - | - | deg. | |
| | Peak Sensitivity Wavelength | λ _p | - | 875 | - | nm | |
| | High Level Output Voltage | V _{OH} | I _{OH} =-200 µA | 2/3 V _{CC} | - | V _{CC} | V |
| | Low Level Output Voltage | V _{OL} | I _{OL} =200 µA | - | - | 1/3 V _{CC} | V |
| | Rx SIR Pulse Width | T _{srp} w | tpw(RxD)=1.63µs at 115.2kbit/s | 1.5 | 2.3 | 4.0 | µs |
| | Rise Time | t _r | BR=115.2kbit/s | - | 85 | 200 | ns |
| | Fall Time | t _f | | - | 85 | 200 | ns |
| | Communication Distance | D | | 20 | 60 | - | cm |
| | Receiver Latency Time | TL | | - | 100 | 150 | µs |
| Receiver Wakeup Time | T _{rw} | | - | 150 | 200 | µs | |