

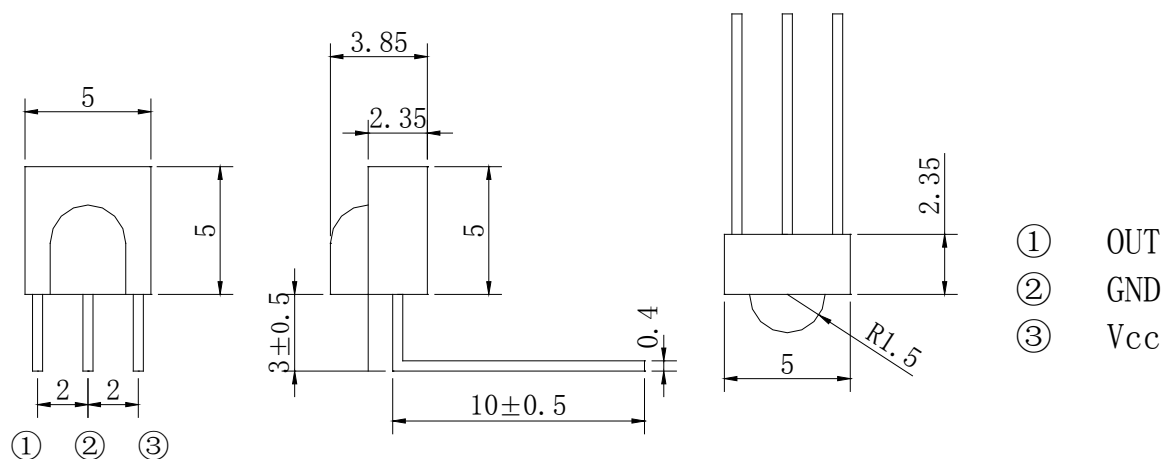
Features

- Receiver Module
- Internal filter for PCM frequency
- Output active low
- Photo detector and preamplifier in one package.
- Meet ROHS Green Product

Applications

- Receiver

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.3mm unless otherwise noted.
3. Specifications are subject to change without notice
4. This drawing is only for indication, not as a basis for the actual structure.

Selection Guide

| Part No | Carrier Frequencies | PART | MATERIAL | COLOR |
|--------------------------------|---------------------|----------|----------|-------|
| FDI-M5050385R636-WGC-D3.0-10.0 | 36 kHz | Chip | Silicon | Black |
| | | Compound | Epoxy | Black |

Electrical / Optical Characteristics At Ta=25 °C and Vcc=3.0V

| Symbol | Parameter | Ratings | | | Unit | Condition |
|----------------|------------------------|---------|------|-----|------|----------------------------|
| | | Min. | Typ. | Max | | |
| L | Reception Distance | 12 | - | - | m | $\theta=0^\circ$ (Note 1) |
| | | 6 | - | - | m | $\theta=45^\circ$ (Note 1) |
| Vs | Supply Voltage | 2.7 | - | 6.0 | v | - |
| Icc | Consumption Current | - | - | 1.5 | mA | No signal input |
| λ Peak | Peak Wavelength | - | 940 | - | nm | |
| θ_h | Half Angle | - | 45 | - | deg | - |
| TH | High Level Pulse Width | 400 | - | 800 | us | Note 2 |
| TL | Low Level Pulse Width | 400 | - | 800 | us | |

Note :

1. The ray receiving surface at a vertex and relation to the ray axis in the range of $\theta=0^\circ$ and $\theta=45^\circ$.
2. A range from 30cm to the arrival distance. Average value of 50 pulses.

Absolute Maximum Ratings At Ta=25°C

| Parameter | Maximum Rating | Unit |
|-----------------------------|------------------------------|------|
| Supply Voltage | 6.5 | V |
| Supply Current | 2.5 | mA |
| Junction Temperature | 80 | °C |
| Operating Temperature Range | -20°C to + 65°C | |
| Storage Temperature Range | -40°C to + 85°C | |
| Soldering Condition | 260°C For 5 Seconds (Note 1) | |

Note 1 : 4mm from the bottom

Typical Characteristics (Ta=25°C unless otherwise specified)

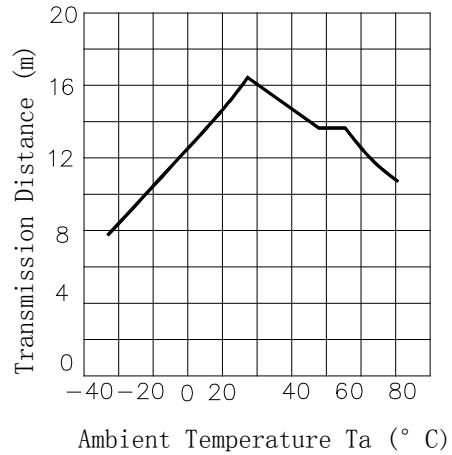
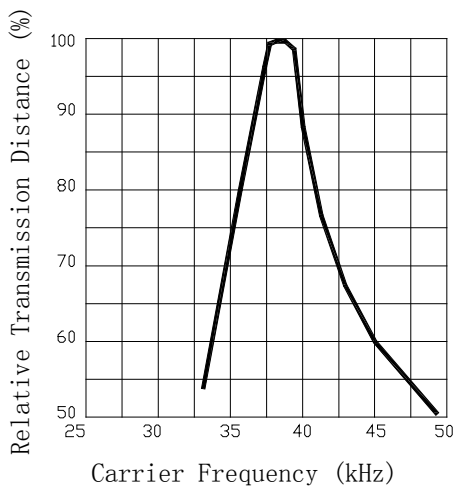
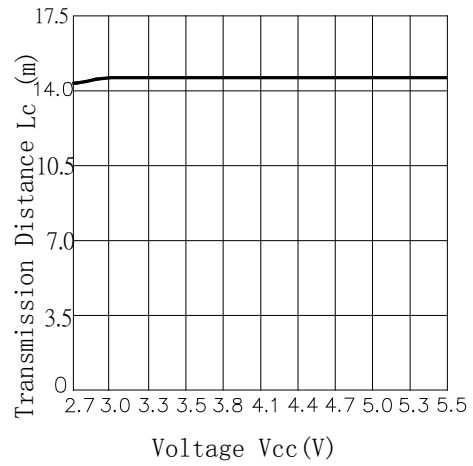
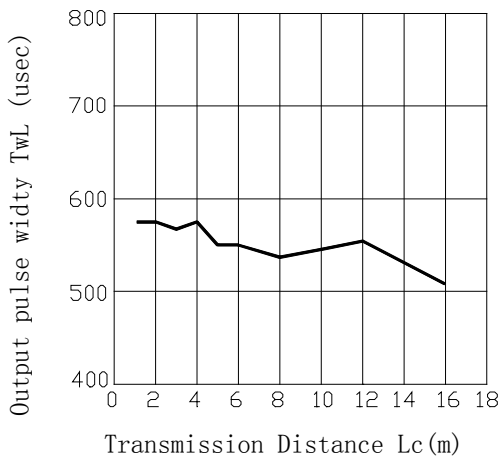
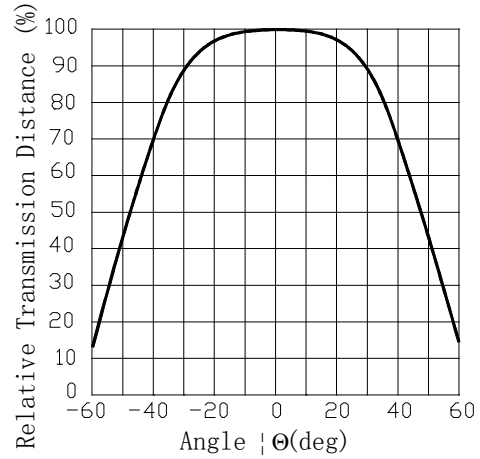
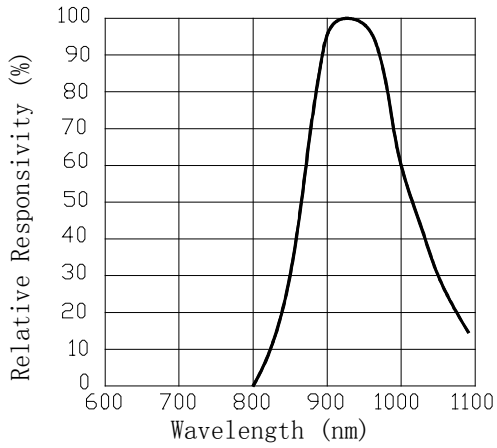
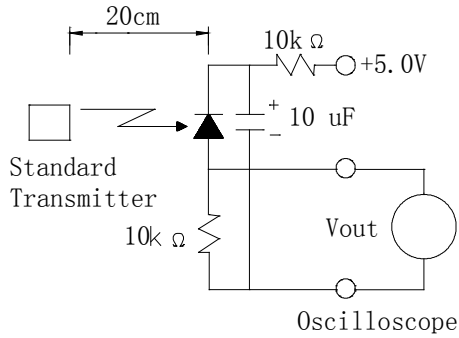
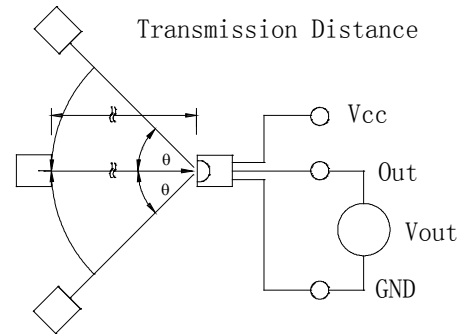


Illustration of used terms

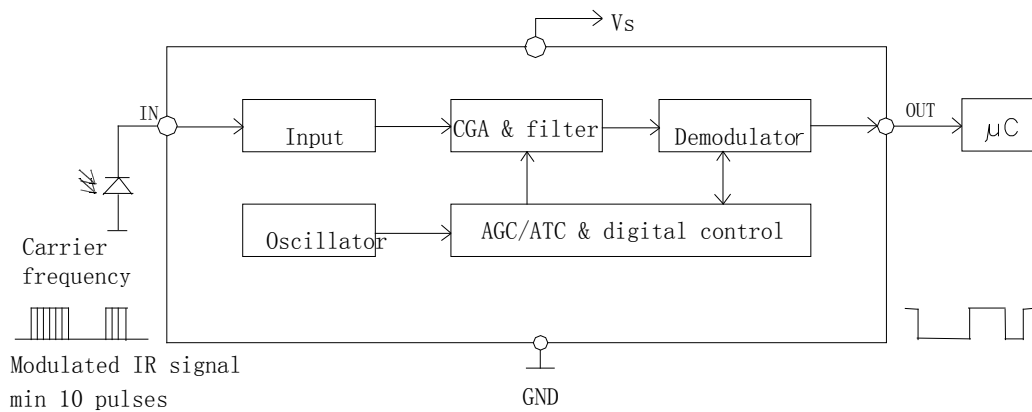
Measuring Method



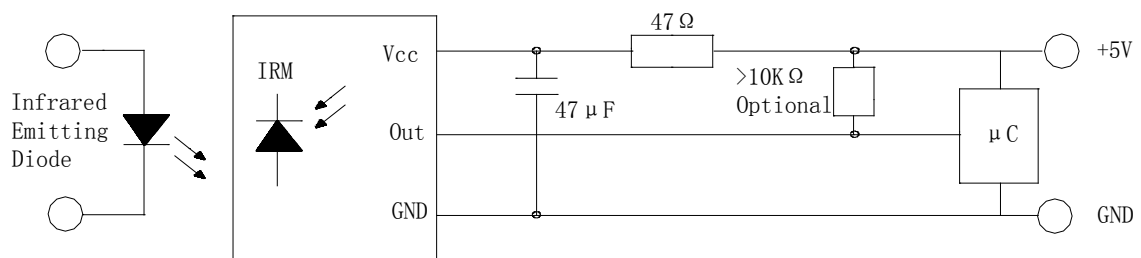
Measuring System



Block Diagram



Application Circuit



Reliability Test Items Conditions

| Classification | Test Item | Test Conditions | Test hours | Result |
|--------------------|-----------------------------------|--|------------|--------|
| Endurance Test | Operation Life | Ta=Under room temperature | 1000hrs | 0/20 |
| | High Temperature High Humidity | Ta=+ 65°C±5°C RH=85% | 240hrs | 0/20 |
| | High Temperature Storage | High Ta=+ 85°C±5°C | 1000hrs | 0/20 |
| | Low Temperature Storage | Low Ta=-35°C±5°C Test time=1000hrs | 1000hrs | 0/20 |
| Environmental Test | Temperature Cycling | -40°C ~+100°C 15min 5min 15min | 300 Cycles | 0/20 |
| | Thermal Shock | -35°C ~±5°C ~+85°C ~±5°C 5min 10sec 5min | 300 Cycles | 0/20 |
| | Solder Resistance | Preheating: 120°C-150°C, within 2 minutes. Operation heating : 260°C (Max.), within 5 seconds (Max.) 4mm from the bottom | | 0/20 |

Judgment criteria of failure for the reliability

| Measuring items | Symbol | Judgment criteria for failure |
|--|--------|-------------------------------|
| Reception Distance ($\theta=0^\circ$) | L0 | Below $S \times 0.7$ |
| Reception Distance ($\theta=45^\circ$) | L45 | Below $S \times 0.7$ |

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Measurment shall be taken between 2 hours after the test pieces have been returned to normal ambient conditions after completion of each test.