

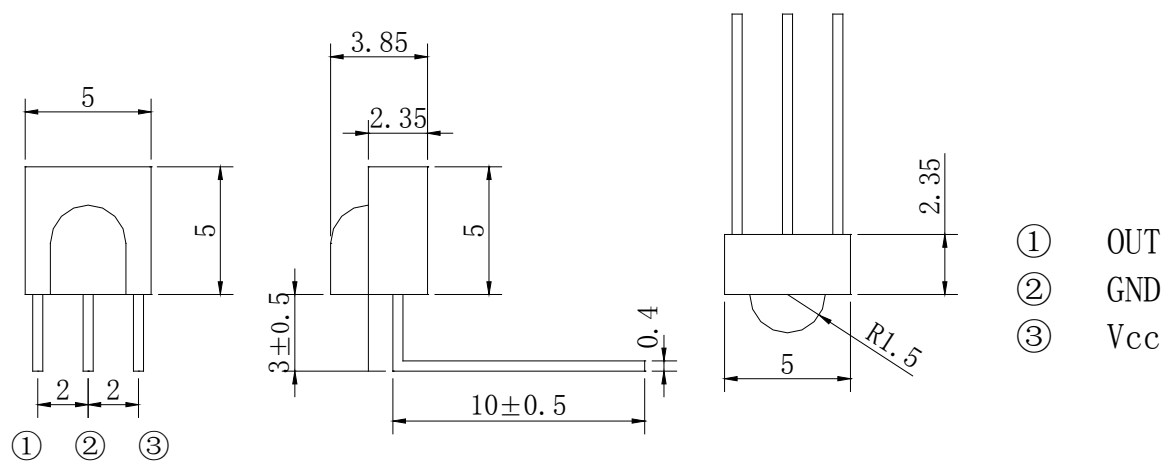
Features

- 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 :

- The ray receiving surface at a vertex and relation to the ray axis in the range of $\theta=0^\circ$ and $\theta=45^\circ$.
- 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)

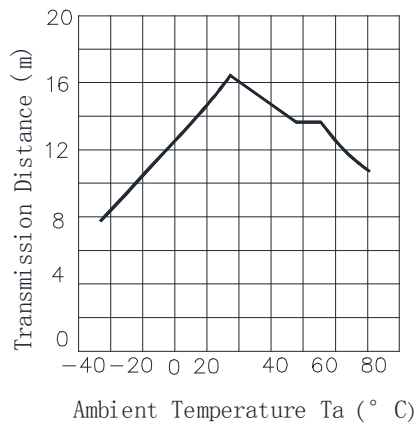
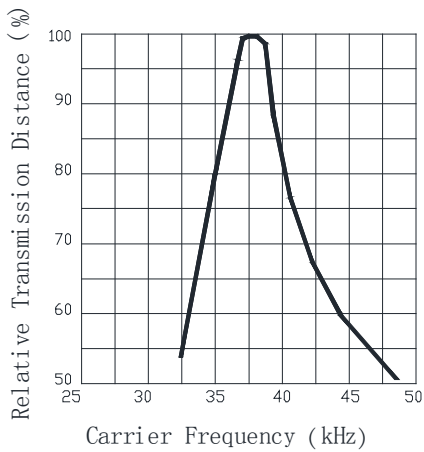
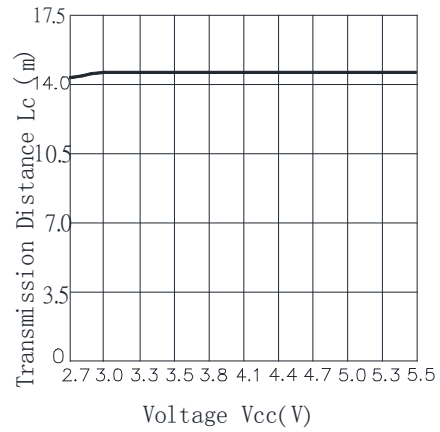
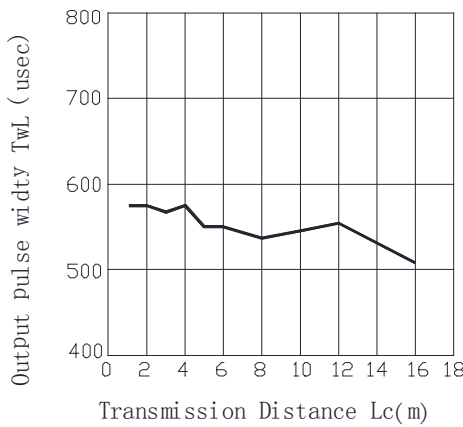
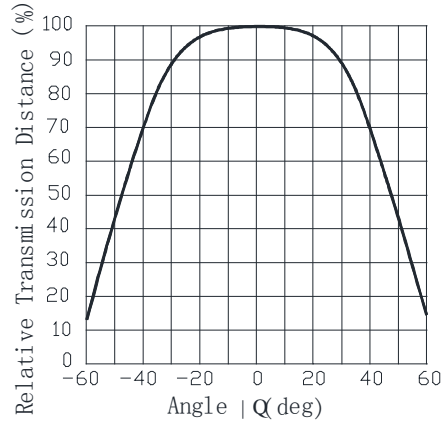
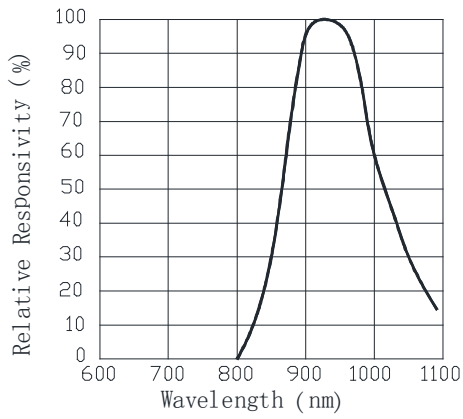
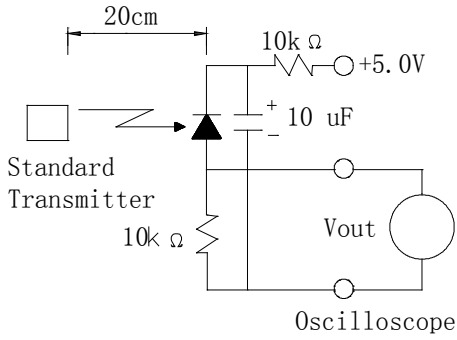
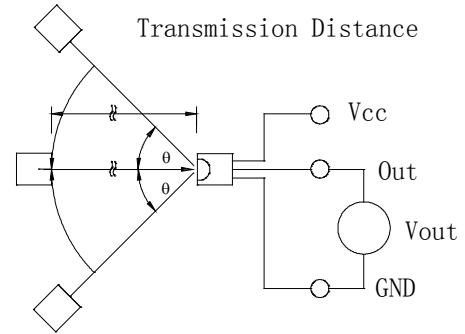


Illustration of used terms

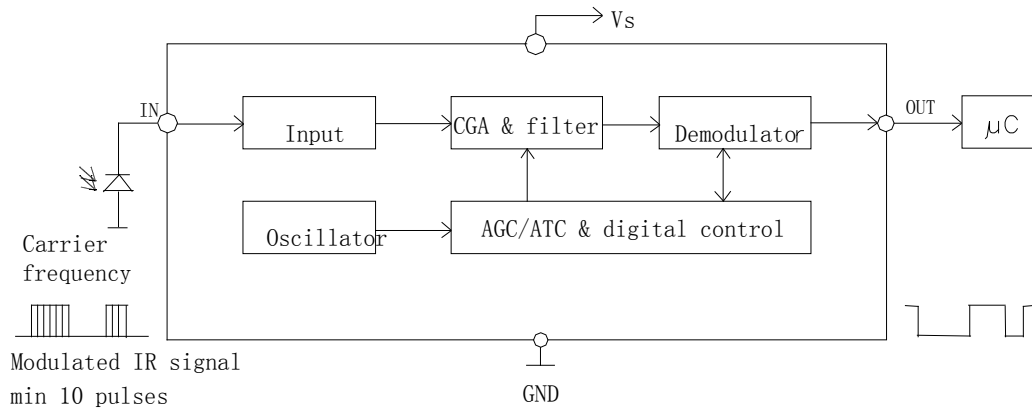
Measuring Method



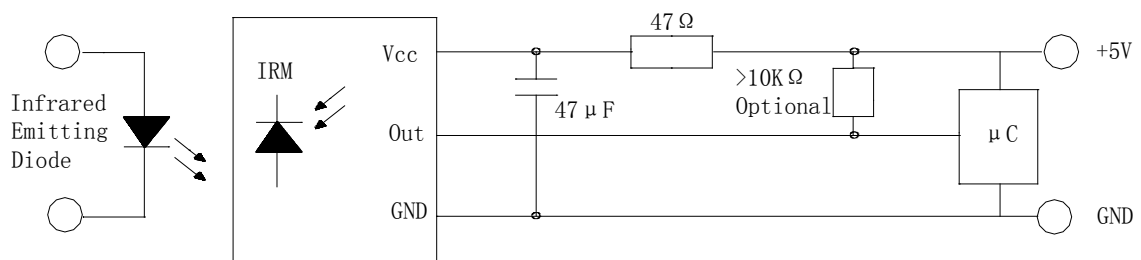
Measuring System



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.