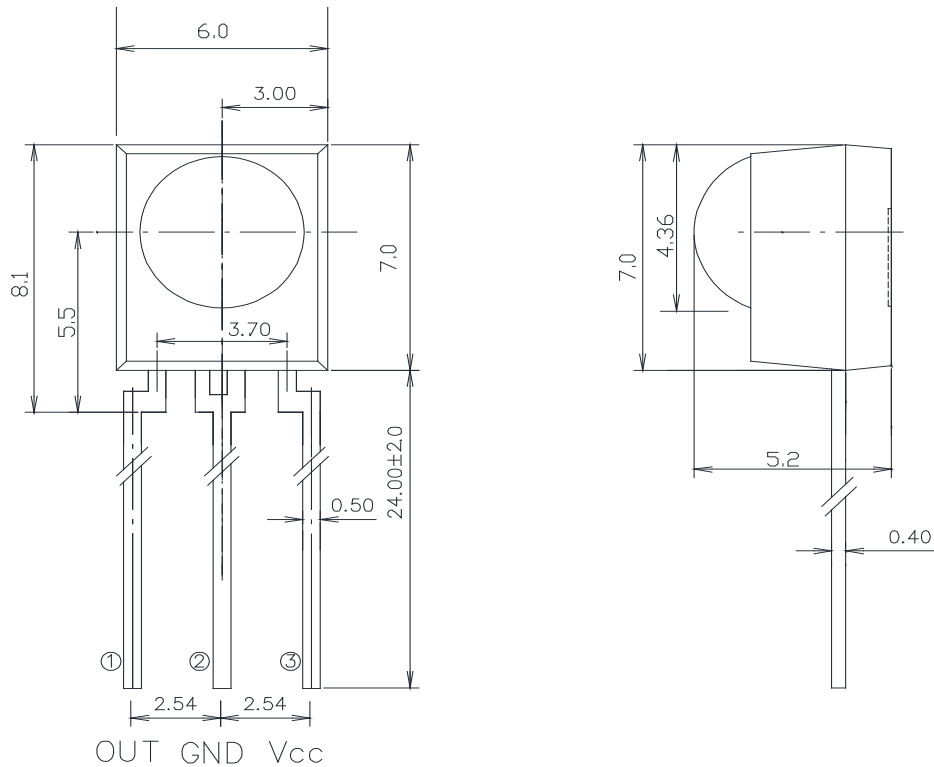


**Features**

- 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  $\pm 2.0$ mm 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	Carrie Frequencies	PART	MATERIAL	COLOR
FDI-M6070520R538M-EDNWMC	38 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		
V <sub>H</sub>	High Level Output Voltage	V <sub>cc</sub> -0.5			v	
V <sub>L</sub>	Low Level Output Voltage		0.2	0.4	v	
L	Reception Distance	15			m	θ=0° (Note 1)
		10			m	θ=30° (Note 1)
		7			m	θ=45° (Note 1)
V <sub>s</sub>	Supply Voltage	2.7		5.5	v	-
f <sub>c</sub>	BPF frequency	-4.0		+4.0	%	
R <sub>pul</sub>	Peak Wave Length		50		k Ω	
I <sub>cc</sub>	Consumption Current	0.5	0.8	1.2	mA	No signal input
λ <sub>Peak</sub>	Peak Wavelength	860	940	1100	nm	
θ <sub>h</sub>	Half Angle		45		deg	-
T <sub>pw</sub>	Output Pulse Width	150	200	300	us	Note 2

Note :

1. The ray receiving surface at a vertex and relation to the ray axis in the range of θ=0° and θ=45°.
2. A range from 30cm to the arrival distance. Burst Wave = 200us, Period=1.2ms

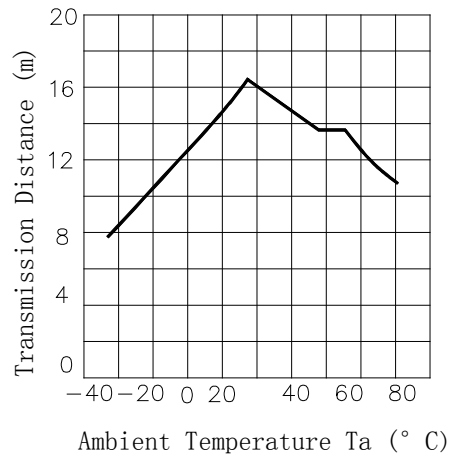
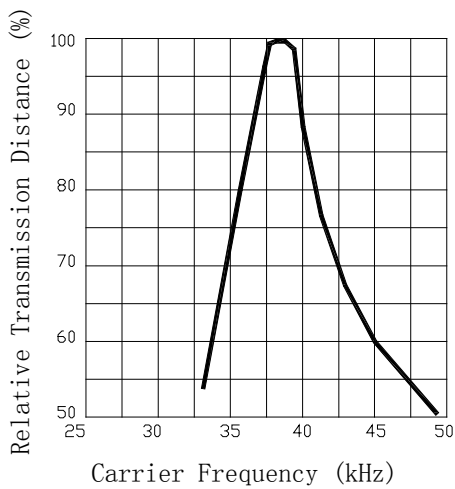
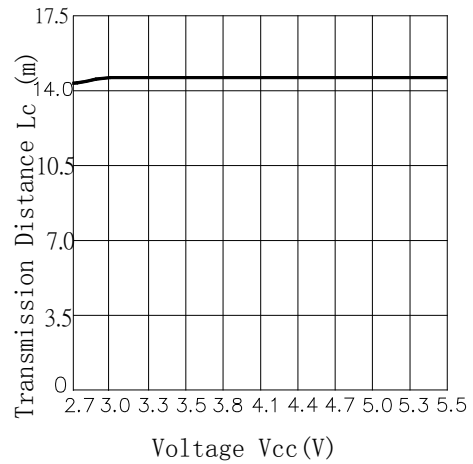
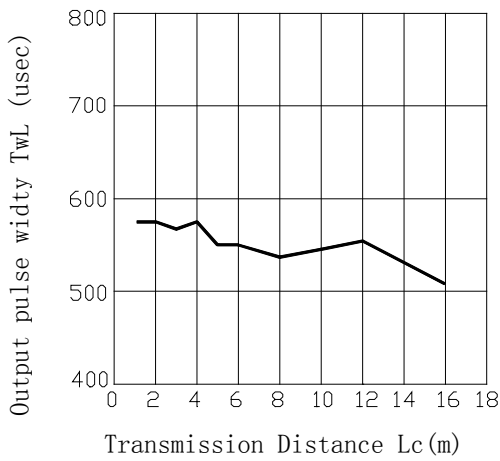
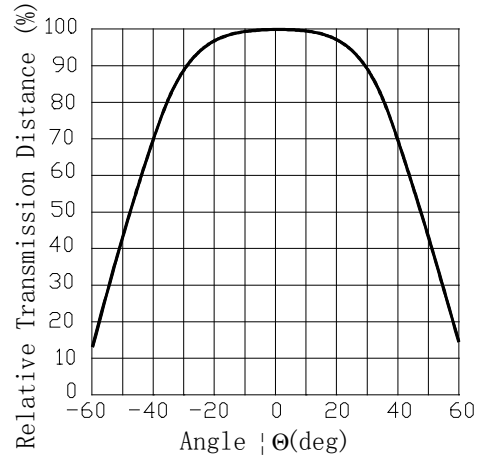
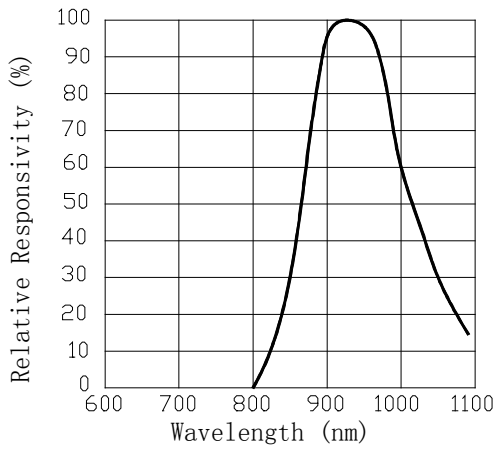
**Absolute Maximum Ratings At Ta=25°C**

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

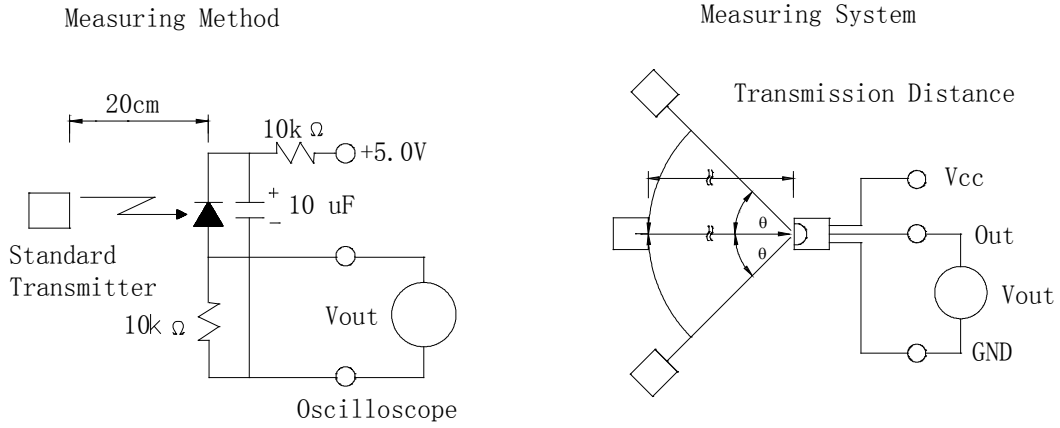
Note 1 : 4mm from the bottom



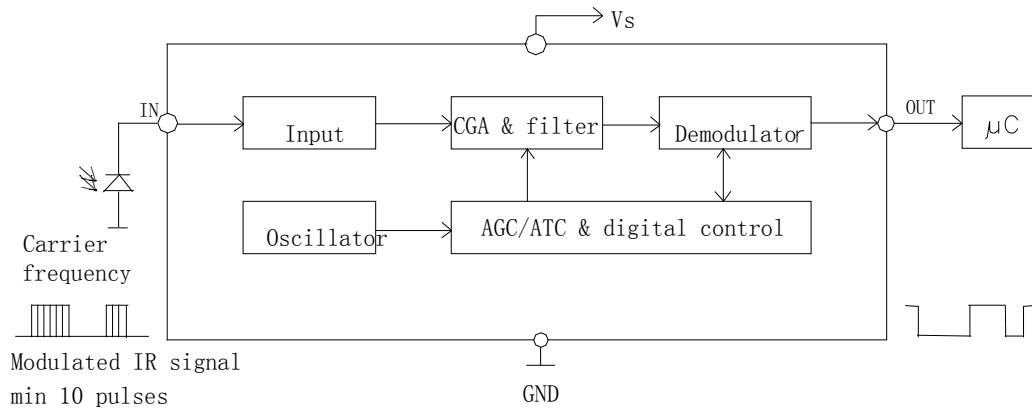
Typical Characteristics (Ta=25°C unless otherwise specified)



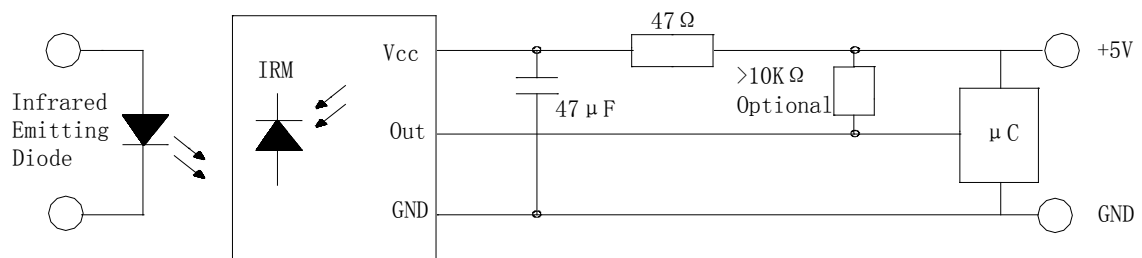
**Illustration of used terms**



**Block Diagram**



**Application Circuit**



**Code Information**

Protocol	Suitable	Protocol	Suitable
JVC	ok	RCA	ok
Matsushita	ok	Sharp	ok
Mitsubishi	ok	Sony 12 Bit	ok
NEC	ok	Sony 15 Bit	ok
RC5	ok	Sony 20 Bit	ok
RC6	ok	XMP	ok
RCMM	ok	XMP-1	ok
RCS-80	ok	4PPM	ok
HIGH DATA RATE	ok	r-step	ok

**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 (θ=0°)	L0	Below S×0.7
Reception Distance (θ=45°)	L45	Below S×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.