

## KSM - 60 \*\* LF · KSM - 70 \*\* LF

The KSM - 60\*\*LF consist of a PIN Photodiode of high speed and a preamplifier IC in the package as an receiver for Infrared remote control systems

### FEATURES

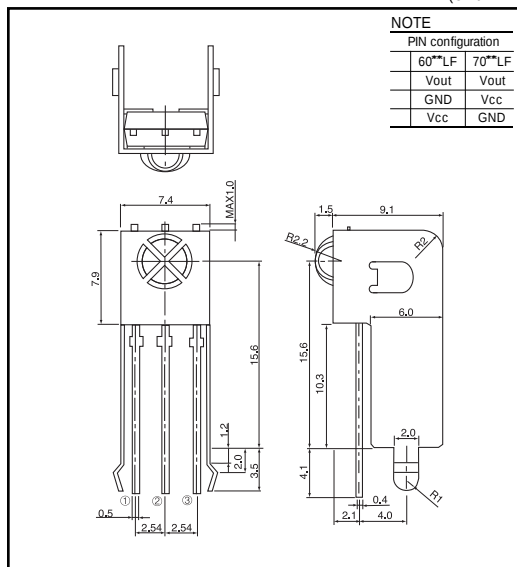
- One mold small package
- 5 Volt supply voltage, low power consumption
- Shielded against electrical field disturbance
- High immunity against ambient light
- Easy interface with the main board
- TTL and CMOS compatibility

### APPLICATIONS

- TV, VTR, Acoustic Devices, Air Conditioners, Car Stereo Units, Computers, Interior controlling appliances, and all appliances that require remote controlling

### DIMENSIONS

(Unit : mm)



### MAXIMUM RATINGS

(Ta=25 Unless otherwise noted)

| Parameter             | Symbol | Rating         | Unit |
|-----------------------|--------|----------------|------|
| Supply Voltage        | Vcc    | 5.5            | V    |
| Operating Temperature | Topr.  | - 10 ~ +60     |      |
| Storage Temperature   | Tstg.  | - 20 ~ +75     |      |
| Soldering Temperature | Tsol.  | 260(Max 5 sec) |      |

### B.P.F CENTER FREQUENCY

| Model NO.  | B.P.F Center Frequency(kHz) |
|------------|-----------------------------|
| KSM - 1 LF | 40.0                        |
| KSM - 2 LF | 36.7                        |
| KSM - 3 LF | 37.9                        |
| KSM - 4 LF | 32.7                        |
| KSM - 5 LF | 56.9                        |

### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 ), Vcc=5.0V

| Parameter                     | Symbol          | Conditions             | Min.              | Typ. | Max. | Unit. |
|-------------------------------|-----------------|------------------------|-------------------|------|------|-------|
| Supply Voltage                | Vcc             |                        | 4.5               | 5.0  | 5.5  | V     |
| Current Consumption           | Icc             | Input Signal=0         | -                 | 1.2  | 2.5  | mA    |
| Peak Wavelength *1            | $\lambda p$     |                        | -                 | 940  | -    | nm    |
| B.P.F Center Frequency        | fo              |                        | -                 | 37.9 | -    | kHz   |
| Transmission Distance *1      | L               | 200 ± 50x              | 10                | -    | -    | m     |
|                               |                 | ± 30,                  | 7                 | -    | -    | m     |
| H Level Output Voltage *1     | V <sub>OH</sub> | 30cm over the ray axis | 4.5               | 5.0  | -    | V     |
| L Level Output Voltage *1     | V <sub>OL</sub> |                        | -                 | 0.1  | 0.5  | V     |
| H Level Output Pulse Width *1 | T <sub>WH</sub> | Burst Wave=600 μs      | 500               | 600  | 700  | μs    |
| L Level Output Pulse Width *1 | T <sub>WL</sub> | Period=1.2ms           | 500               | 600  | 700  | μs    |
| Output Form                   |                 |                        | Active Low Output |      |      |       |

Note : \*1. It specifies the maximum distance between emitter and detector that the output waveform satisfies the standard under the conditions below against the standard transmitter

1) Measuring place : Indoor without extreme reflection of light

2) Ambient light source : Detecting surface illumination shall be irradiate 200 ± 50lx under ordinary white fluorescence lamp without high frequency lightning

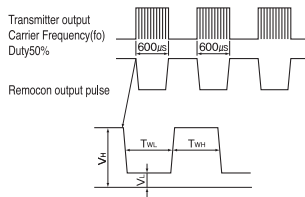
3) Standard transmitter : Burst wave of standard transmitter shall be arranged to 50mVp - p under the measuring circuit

## Optic receiver modules

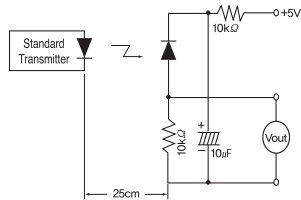
KSM - 60 \*\*\* LF · KSM - 70 \*\*\* LF

## MEASURING METHOD

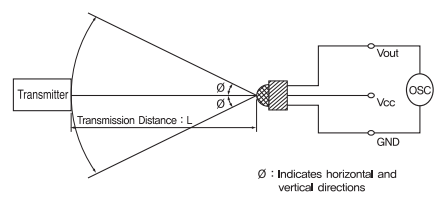
### Output Pulse Width



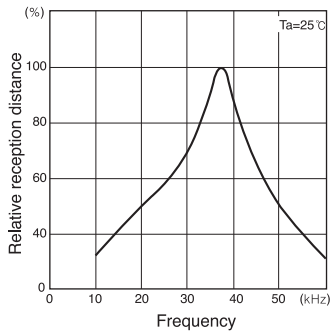
### Standard Transmitter



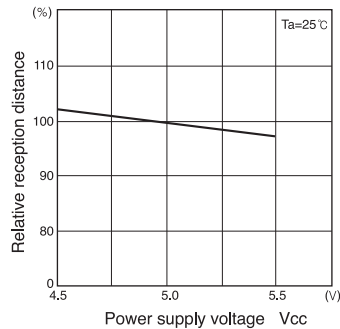
### Test Condition of Transmission Distance



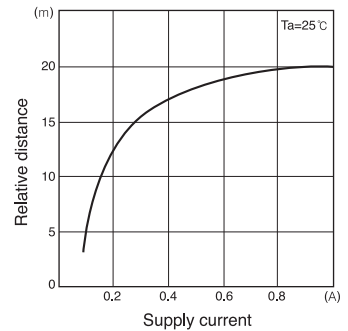
### Relative reception distance Vs. Frequency(37.9kHz)



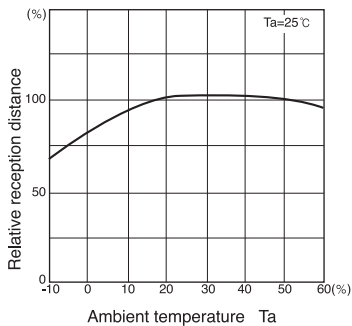
### Relative reception distance Vs. Power supply voltage



### Relative distance Vs. Supply current



### Relative reception distance Vs. Ambient temperature



### Radiant pattern

