

KSM-91 TM1E

The KSM-91 TM1E consist of a PIN Photodiode of high speed and a preamplifier IC in the package as an receiver for Infrared remote control systems

Features

- Wide angle design
- Wide supply-voltage range : 2.7V to 5.5V
- Shielded against electrical field disturbance
- High immunity against ambient light disturbances
(Logic Controller Adaptation)
- Available for carrier frequencies between 32.7KHz to 56.9KHz
- TTL and CMOS compatible

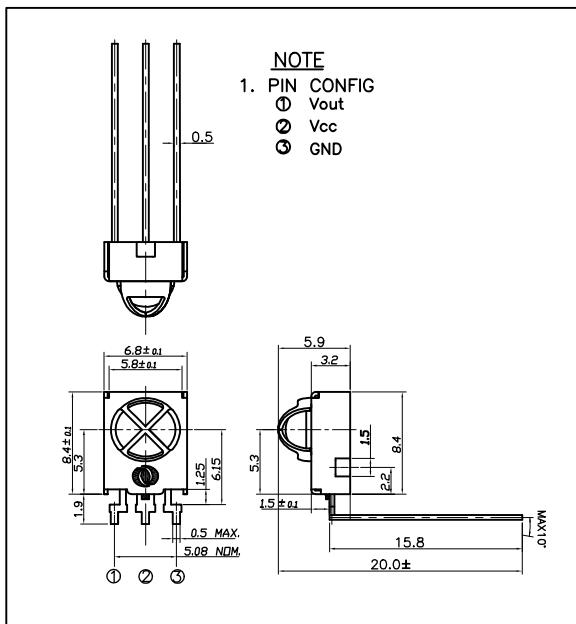
Applications

- Audio & Video Applications (TV, VTR, Audio, DVDP, CDP)
- Home Appliances (Air conditioner, Computer, Camcoder)
- Wireless Toys
- Remote Control Equipment

Maximum Ratings

[Ta=25]

Parameter	Symbol	Ratings	Unit
Supply Voltage	Vcc	6.0	V
Operating Temperature	Topr	-10 ~ +60	
Storage Temperature	Tstg	-20 ~ +75	
Soldering Temperature	Tsol	260 (Max 5 sec)	

DIMENSIONS**Electro-Optical Characteristics**

[Ta=25 , Vcc=5.0V(Vcc=3.0V)]

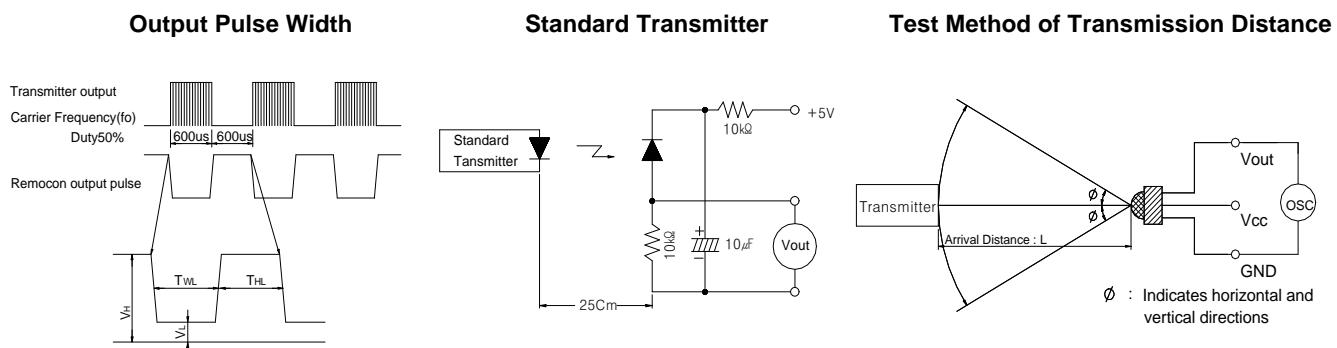
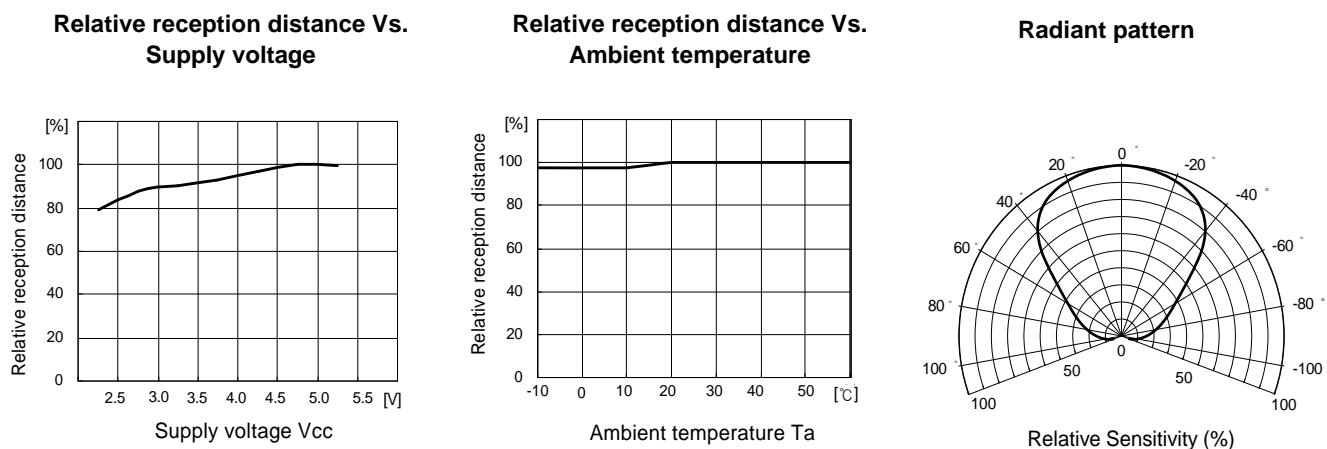
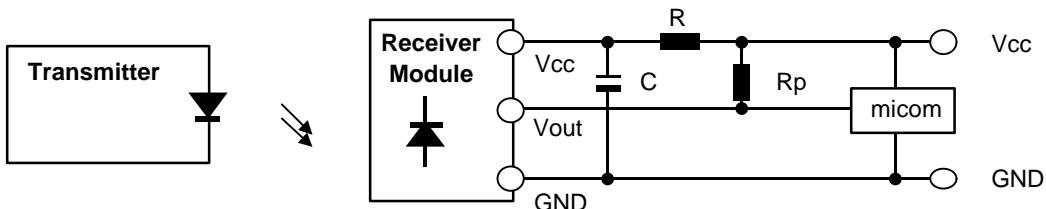
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Recommended Supply Voltage	Vcc		2.7	-	5.5	V
Current Consumption	Icc	No signal input	0.5	1.2(1.0)	1.7	mA
Peak Wavelength *1	p		-	940	-	nm
B.P.F Center Frequency	fo		-	37.9	-	kHz
Transmission Distance *1	L	250 ± 50lx	0 °	15	-	m
			± 30 °	12	-	
High level Output voltage *1	V _{OH}	30cm over the ray axis	4.5(2.8)	5.0(3.0)	-	V
Low level Output voltage *1	V _{OL}		-	0.1	0.5	V
High level Output Pulse Width *1	T _{WH}	Burst wave=600μs Period = 1.2ms	500	600	700	μs
Low level Output Pulse Width *1	T _{WL}		500	600	700	μs
Output Form			Active Low Output			

*1. It specifies the maximum distance between emitter and detector that the output wave form 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

KSM-91□TM1E**■ Measuring Method [Ta=25°C]****■ Typical Characteristics Curve [Ta=25°C]****■ Standard Application Circuit with R-C Decoupling Filter**

*1 Recommended Circuit Description

- 1) Transmitter(IRED) drive current
: IFP = 300mA_{P-P} ~ 600mA_{P-P}
- 2) R-C Decoupling Filter with Lower Cut-off Frequency
: R=100Ω , C=47μF ⇒ fc = 1/2 π RC = 33.9Hz
- 3) External pull-up resistor(optional)
: 10kΩ over