IS1U60/IS1U60L

OPIC IR Sensor For Remote Control

■ Features

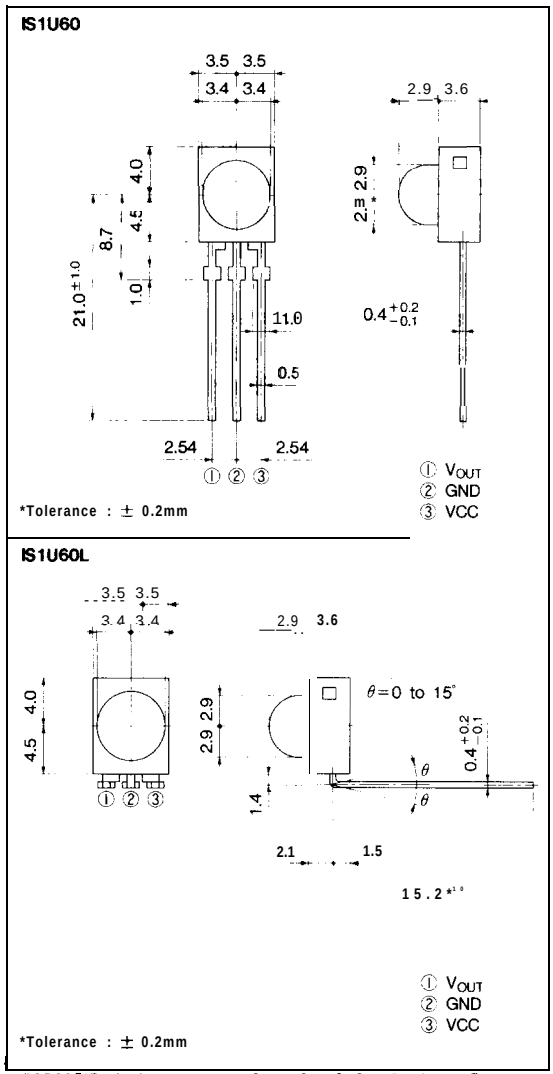
1. One package by OPIC technology
2. Compact (Approx. 1/6 in volume, as compared with the current model **GP1 U57X)**
3. B. P. F. center frequency (fixed at 38kHz)
4. Special lens design

■ Applications

O Light detecting portion for remote control
1. Audio equipment
2. Compact AV equipments

○ Optical switch

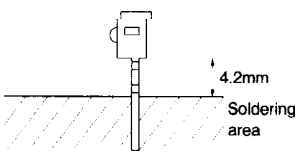
■ Outline Dimensions (Unit : mm)

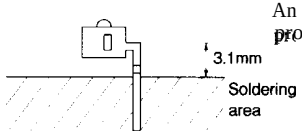


■ Absolute Maximum Ratings (Ta = 25℃)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	0 to 6.0	V
*1 Operating temperature	T_{opr}	−10 to +60	℃
Storage temperature	T_{stg}	−20 to +70	℃
*2 Soldering temperature	T_{sol}	260	℃

*1 No dew formation
*2 For 5 seconds





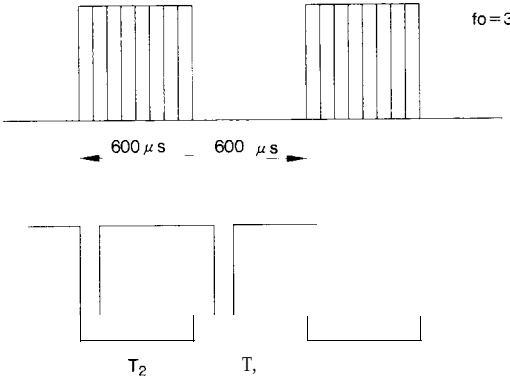
* "OPIC" (Optical IC) is a trademark of the SHARP Corporation
An OPIC consists of a light-detecting element and signal processing circuit integrated onto a single chip.

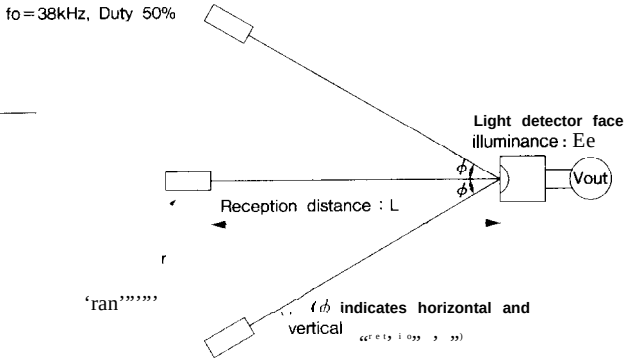
■ Electrical Characteristics

(Ta = 25℃, V_{CC} = +5V)

Parameter	Symbol	Conditions	MIN.	TY1'.	MAX.	Unit
Dissipation current	1(c	No incident light		2.8	4.5	mA
High level output voltage	V_{OH}	*3	V_{CC}−0.2		·	V
Low level output voltage	V_{OL}			0.45	0.6	V
High level pulse width	T,		'$00	—	800	μs
Low level pulse width	T_2		400	—	800	μs
B. I' F. center frequency	f(,		—	38	—	kHz
Reception distance	L	$\phi, \theta = 0°$ E,<1OLX	5.0	—	—	m
Reception distance	L,	$\phi = \pm 30°$ ($\theta = 0°$) $\theta = \pm 15°$ ($\phi = 0°$)E_ℓ <1 0_{LX}	3.0		—	m

*3 The **burst** wave shown below

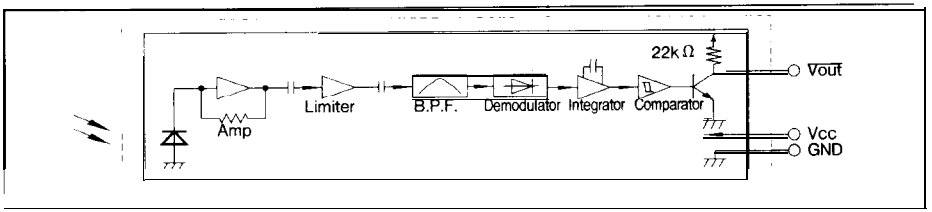




■ Recommended Operating **Conditions**

Parameter	Symbol	Value	Unit
operating supply voltage	V_{CC}	4.7 to 5.3	V

■ **Internal Block Diagram**



■ **Precautions** for Use

(1) In case of adopting the infrared light detecting unit for the wireless remc : e control, use it in accordance with the transmission scheme and the signal format recommended in "Countermeasures for malfunction prevention of home appliances with infrared remote control " issued form Japan Association of Electrical Home Appliances (AEHA) in July 1987.

(2) Use the light emitting unit (remote control transmitter), in consideration o f performance, characteristics and operating condition of light emitting device and the characteristics of the light detecting unit.

(3) To avoid the electorstatic breakdown of IC, handle the unit under the condit ion of grounding with human body, soldering iron, etc.

(4) As for other general cautions, refer to the chapter "Precautions for Use" (Page 78 to 93).