

# SHARP

## High Cost-Performance IR Detecting Unit for Remote Control

### GP1U27X / 28X / 28Y Series

#### GENERAL DESCRIPTION

Sharp's GP1U27X/28X/28Y series are high cost-performance IR detecting units for remote control. Their specifications are almost compatible with our conventional models (GP1U57X/58X/58Y series).

#### FEATURES

- 1) High cost-performance due to full mold structure
- 2) Compatible with conventional models (ex. height from PCB to light detecting surface, electro-optical characteristics)
- 3) CR for power supply filter is unnecessary due to built-in voltage regulator.
- 4) Wide range of user-specific B.P.F frequencies

#### APPLICATIONS

- TV, VCR, AV equipment
- Air conditioner, HA equipment

#### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Supply voltage	Vcc	0 to 6.3	V
Operating temperature	Topr	*1 -10 to +70	°C
Storage temperature	Tstg	-20 to +70	°C
Soldering temperature	Tsol	260 (Soldering time : 5s)	°C

\*1) No dew formation

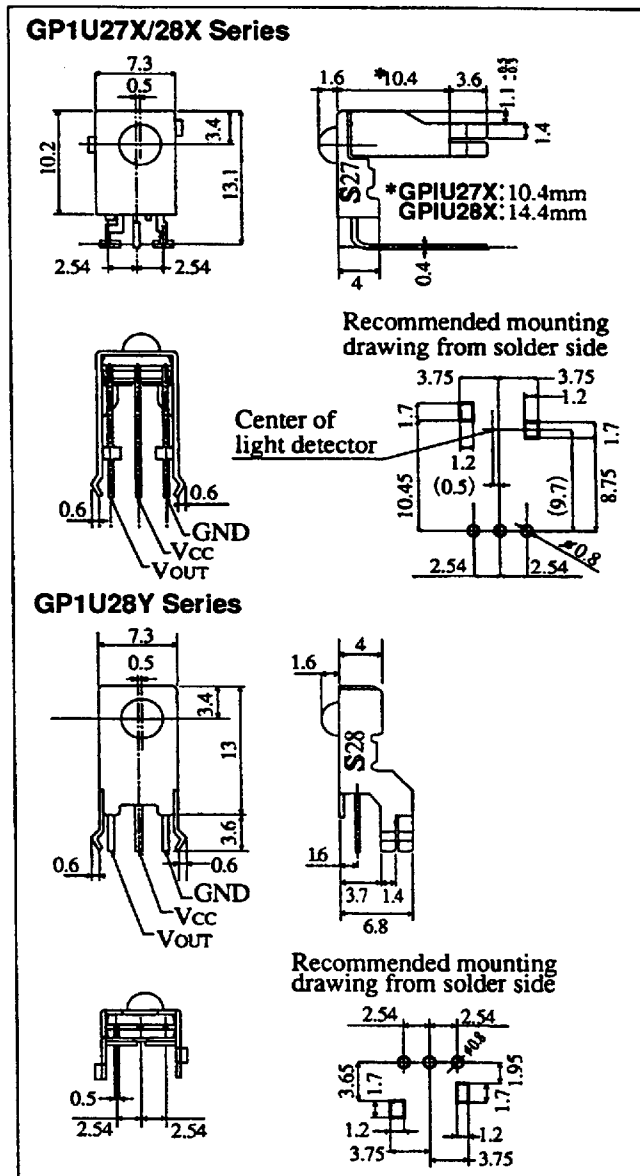
#### RECOMMENDED OPERATING CONDITION

Parameter	Symbol	Operating condition	Unit
Supply voltage	Vcc	4.7 to 5.3	V

**Notice:**

In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that occur in equipment using any of SHARP's devices, shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest of the device specification sheets before using any SHARP's device.

#### OUTLINE DIMENSIONS (Unit : mm)



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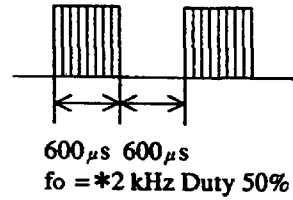
GP1U27X/28X/28Y Series

ELECTRO-OPTICAL CHARACTERISTICS

(Unspecified Ta=25°C, Vcc=+5V)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Remark
Current dissipation	I <sub>cc</sub>	-	-	5.0	mA	No input light
High level output voltage	V <sub>OH</sub>	V <sub>cc</sub> -0.5	-	-	V	*1
Low level output voltage	V <sub>OL</sub>	-	-	0.45	V	*1
High level pulse width	T <sub>1</sub>	400	-	800	μs	*1
Low level pulse width	T <sub>2</sub>	400	-	800	μs	*1
B.P.F. center frequency	f <sub>o</sub>	-	*2	-	kHz	

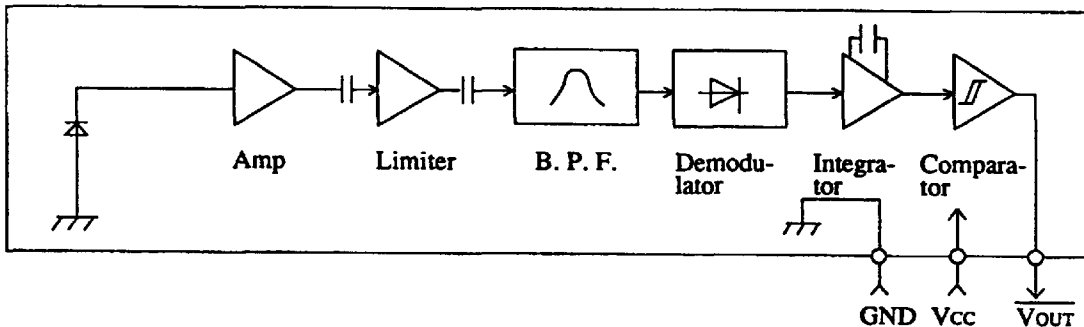
\*1) The burst wave as shown in the figure on the right shall be transmitted by the transmitter shown in Fig.1. However the carrier frequency of transmitter is same as \*2. Measuring shall be 100 pulse or later after starting the transmission.



\*2) B.P.F. center frequency : f<sub>o</sub> of each model is shown in the list below.

Model No.	B.P.F. center frequency(kHz)
GPIU27X/28X/28Y	40
GPIU270X/280X/280Y	36
GPIU271X/281X/281Y	38
GPIU272X/282X/282Y	36.7
GPIU273X/283X/283Y	32.75
GPIU277X/287X/287Y	56.8

SCHEMATIC DRAWING



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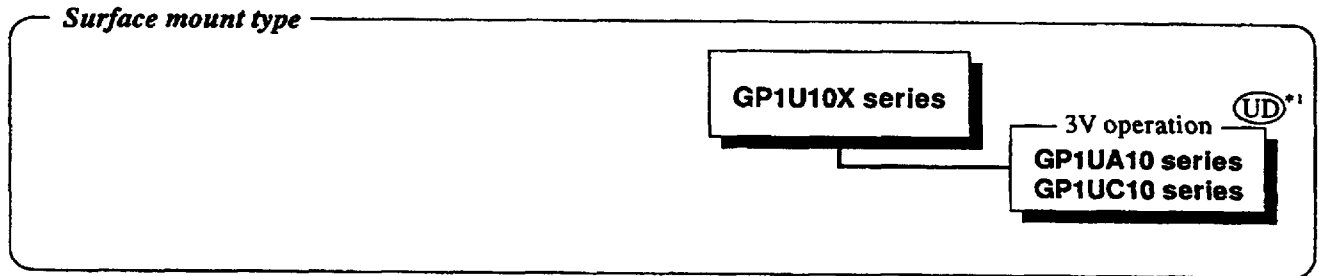
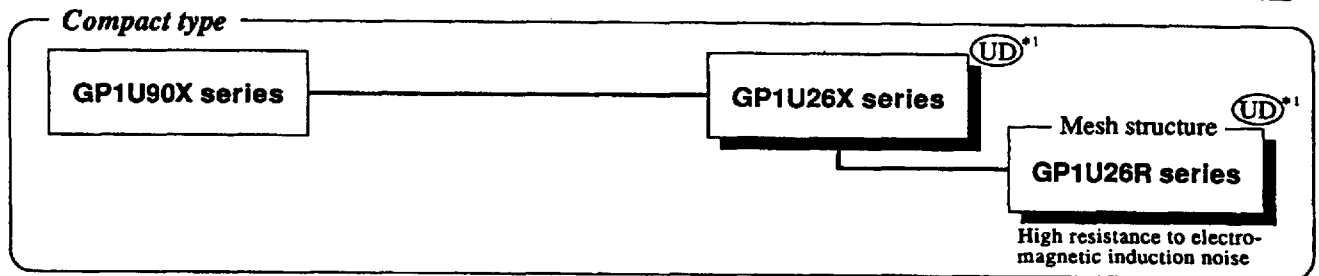
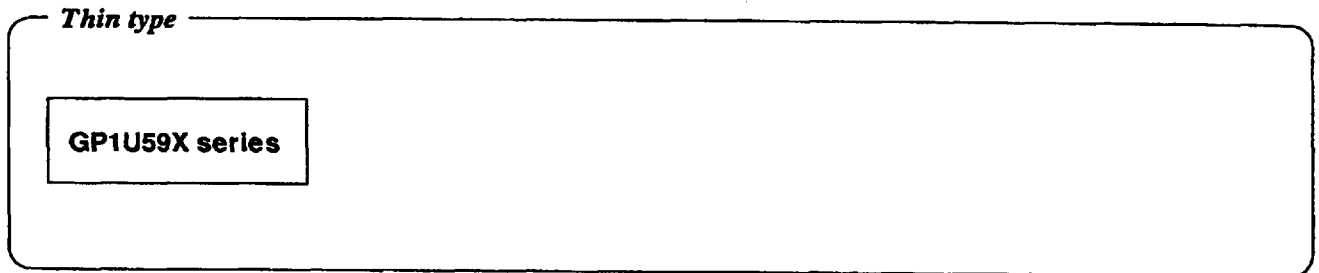
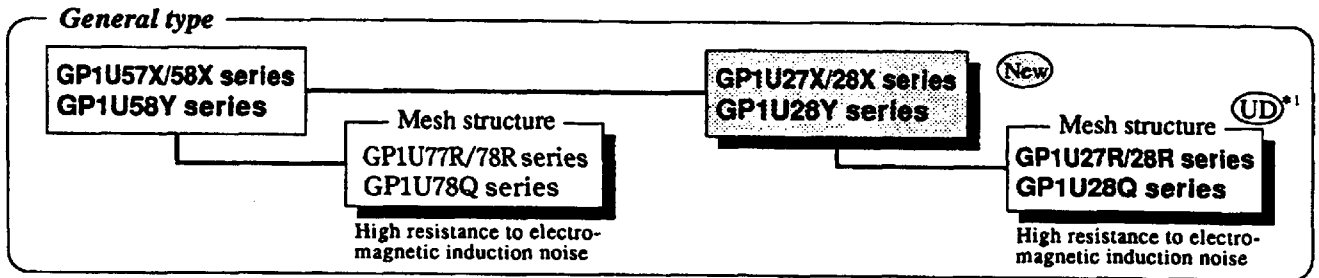
GP1U27X/28X/28Y Series

LINE-UP

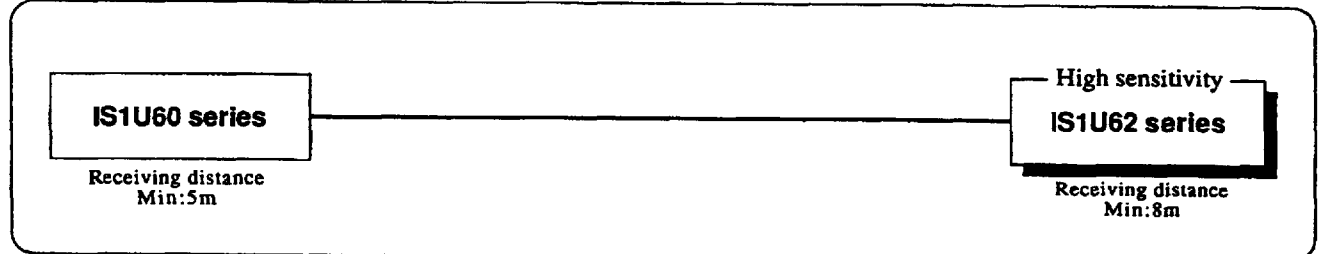
Conventional models

New models

● IR detecting Units



● OPIC\*2Sensors



\* 1 (UD) : Under Development

\* 2 OPIC : Optical IC

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# SHARP

## IR Detecting Unit for Remote Control

**GP1U27X / 28X / 28Y Series**  
**GP1U27R / 28R / 28Q Series**  
**GP1U26X / 26R Series**

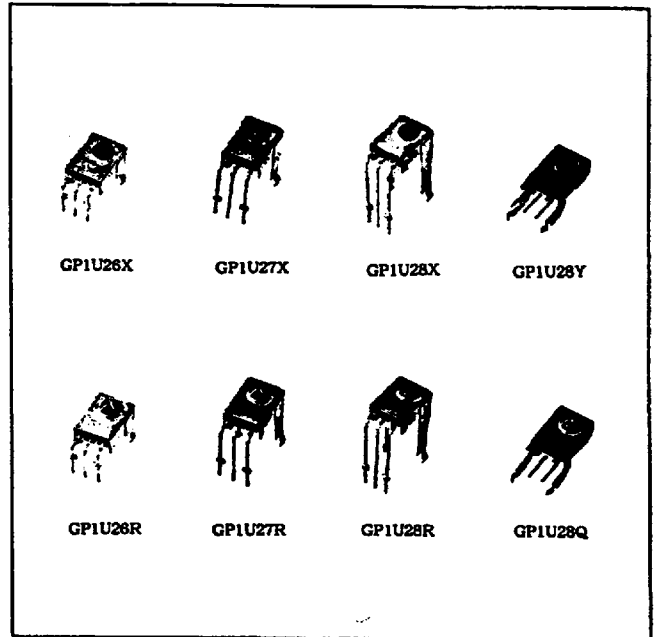
### GENERAL DESCRIPTION

Sharp's GP1U27X/28X/28Y series, GP1U27R/28R/28Q series, GP1U26X/26R series are full-mold type compact IR detecting units for remote control.

Their specifications are almost compatible with our conventional models (GP1U57X/58X/58Y/77R/78R/78Q/90X series).

### FEATURES

1. Compact due to employing full mold structure  
**GP1U28R/GP1U28Q** :almost 1/4 compared with our conventional models(**GP1U78R/GP1U78Q series**).
2. Compatible with conventional models (ex. height from PCB to light detecting surface, electro-optical characteristics)
3. CR for power supply filter is unnecessary due to built-in voltage regulator.
4. Wide range of user-specific B.P.F frequencies



SENSOR

### APPLICATIONS

Application	General type	Mesh type	Compact type	SMD type
	GP1U27X/28X GP1U28Y Series	GP1U27R/28R GP1U28Q Series	GP1U26X/26R Series	GP1U10X Series
VCR	○	○	○	
TV	○	○	○	
Camcorder			○	○
Audio	○	○		
Portable audio			○	○
Air conditioner	○	○	○	
Camera			○	○
Lighting equipment	○	○	○	
Electric fan	○	○	○	
Toy			○	○

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**ABSOLUTE MAXIMUM RATINGS**

(Ta=25 °C)

Parameter	Symbol	Ratings	Unit
Supply voltage	Vcc	0 to 6.3	V
Operating temperature	Topr	* 1 -10 to +70	°C
Storage temperature	Tstg	-20 to +70	°C
Soldering temperature	Tsol	260 (Soldering time : 5s)	°C

\* 1) No dew formation

**RECOMMENDED OPERATING CONDITIONS**

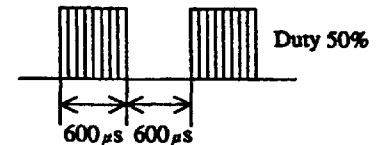
Parameter	Symbol	Operating condition	Unit
Supply voltage	Vcc	4.7 to 5.3	V

**ELECTRICAL CHARACTERISTICS**

(Unspecified Ta=25 °C, Vcc=5V)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Remark
Current dissipation	Icc	—	—	5.0	mA	No input light
High level output voltage	VOH	Vcc-0.5	—	—	V	* 2
Low level output voltage	VOL	—	—	0.45	V	* 2
High level pulse width	T1	400	—	800	µs	* 2
Low level pulse width	T2	400	—	800	µs	* 2
B.P.F. center frequency	fo	—	* 3	—	kHz	

\* 2) The burst wave as shown in the figure below shall be transmitted by the transmitter prescribed by sharp. However the carrier frequency of transmitter is same as \* 3. Measuring shall be 100 pulse or later after starting the transmission.



fo = (\* 3) kHz

\* 3) B.P.F. center frequency : fo of each model is shown in the list below.

**MODEL NO. AND B.P.F. FREQUENCY**

B.P.F. center frequency (KHZ)	Model No.							
	40	GP1U27X	GP1U27R	GP1U28X	GP1U28R	GP1U28Y	GP1U28R	GP1U26X
36	GP1U270X	GP1U270R	GP1U280X	GP1U280R	GP1U280Y	GP1U280R	* 4	* 4
38	GP1U271X	GP1U271R	GP1U281X	GP1U281R	GP1U281Y	GP1U281R	GP1U261X	GP1U261R
36.7	GP1U272X	GP1U272R	GP1U282X	GP1U282R	GP1U282Y	GP1U282R	GP1U262X	GP1U262R
32.75	GP1U273X	GP1U273R	GP1U283X	GP1U283R	GP1U283Y	GP1U283R	* 4	* 4
56.8	GP1U277X	GP1U277R	GP1U287X	GP1U287R	GP1U287Y	GP1U287R	GP1U267X	GP1U267R

\* 4 : It is available on your demand.

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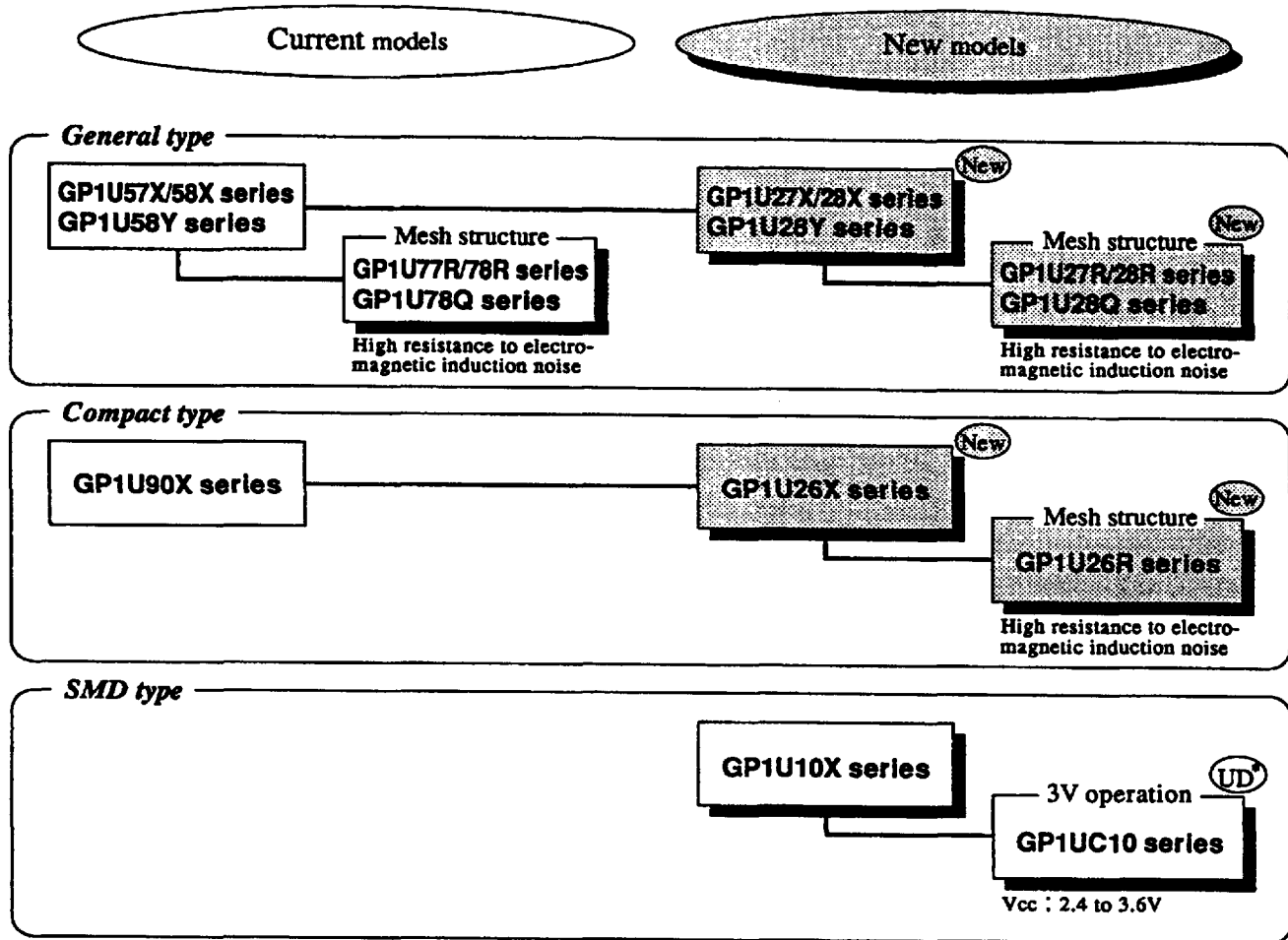
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**GP1U27X/28X/28Y Series, GP1U27R/28R/28Q Series, GP1U26X/26R Series**

**LINE-UP**



■ Specifications are subject to change without notice.

UD\*...Under development

# SHARP

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