

## GP2W1301YP

## IrDA Communication Device

IrDA Transceiver Device (for IrDA 1.3 Low Power Use Only)

### ■ Features

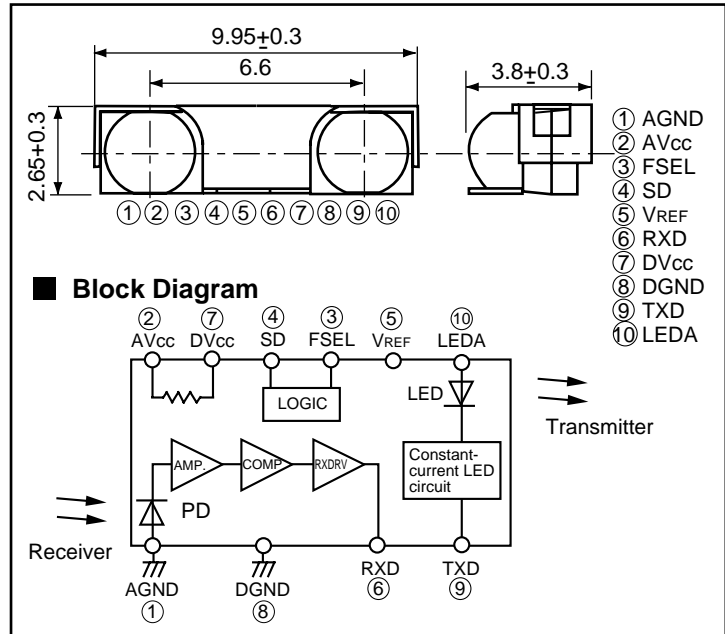
- (1) Compliant to IrDA1.3 Low Power
- (2) Integrated package of transmitter/receiver (9.95 × 3.8 × 2.65mm)
- (3) With V<sub>REF</sub> terminal for adjustment of I/O level (Connection with control LSIs with low operating voltage is possible.)

### ■ Applications

- (1) Cellular phone (Next generation)
- (2) Personal information tools

### ■ Outline Dimensions

(Unit: mm)



IrDA: Stands for Infrared Data Association.  
Industrial group name for standardising infrared communication specifications.

### ■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit	Remarks
Supply voltage	V <sub>CC</sub>	0 to 6.0	V	
I/F supply voltage	V <sub>REF</sub>	0 to 6.0	V	
LED supply voltage	V <sub>LED</sub>	0 to 7.0	V	
Peak forward current	I <sub>FM</sub>	100	mA	Pulse width 78.1μs, Duty ratio 3/15
Operating temperature	T <sub>opr</sub>	-20 to +85	°C	
Storage temperature	T <sub>stg</sub>	-40 to +85	°C	
Soldering temperature	T <sub>sol</sub>	240	°C	Soldering reflow time 10s

(Notice)

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(Internet)

•Data for Sharp's optoelectronic/power devices is provided on internet. (Address <http://sharp-world.com/ecg/>)

### ■ Recommended Operating Conditions

Parameter	Symbol	Ratings	Unit	Remarks
Supply voltage	V <sub>CC</sub>	2.7 to 5.5	V	-
I/F supply voltage	V <sub>REF</sub>	1.7 to 5.5	V	-
LED supply voltage	V <sub>LED</sub>	2.8 to 6.0	V	-
Operating temperature	T <sub>opr</sub>	-20 to +85	°C	-
Transmission speed	BR	2.4 to 115.2, 1 152, 4 000	kbps	-
High level input voltage (SD terminal)	V <sub>IHS</sub>	V <sub>REF</sub> -0.4 to V <sub>REF</sub>	V	Shutdown mode
Low level input voltage (SD terminal)	V <sub>ILS</sub>	0.0 to 0.5	V	Operation mode
High level input voltage (FSEL, TXD)	V <sub>IHT</sub>	V <sub>CC</sub> ×0.8 to V <sub>CC</sub>	V	LED ( ON )
Low level input voltage (FSEL, TXD)	V <sub>ILT</sub>	0.0 to V <sub>CC</sub> ×0.2	V	LED ( OFF )

### ■ Electro-optical Characteristics

(T<sub>opr</sub>=25°C, V<sub>CC</sub>=3.3V unless otherwise specified)

Parameter	Symbol	Ratings			Unit	Conditions
		MIN.	TYP.	MAX.		
Dissipation current at no input signal	I <sub>CC</sub>	-	0.8	1.2	mA	DV <sub>CC</sub> =V <sub>REF</sub> =3.3V
Dissipation current at shutdown	I <sub>CCS</sub>	-	0.001	0.2	μA	DV <sub>CC</sub> =V <sub>REF</sub> =3.3V
High level output voltage	V <sub>OH</sub>	V <sub>REF</sub> -0.4	-	-	V	2.7V>V <sub>REF</sub> >=1.7V
Low level output voltage	V <sub>OL</sub>	-	-	0.4	V	V <sub>REF</sub> =1.7 to 5.5V
Low level pulse width	t <sub>w</sub>	85	-	165	ns	BR=4Mbps
Rise time	T <sub>r</sub>	-	-	40	nA	-
Fall time	T <sub>f</sub>	-	-	40	nA	-
Transmission distance (MAX.)	L	20	-	-	cm	-
Radiant intensity	I <sub>E</sub>	9.0	-	72	mW/sr	-
LED peak current	I <sub>LED</sub>	62	78	94	mA	-
Peak emission wavelength	λ <sub>p</sub>	850	870	900	nm	-

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