GL1F20

Infrared Communication (IrDA1.0 Compatible) InfraredEmitting Diode

■Features

1. IrDA1.0 compatible infrared emitting diode
   (Transmission rate : 2.4 to 115.2kbps)
2. Built-in infrared emitting diode circuit
3. Recommended use in combination with detector (**IS1U20**)

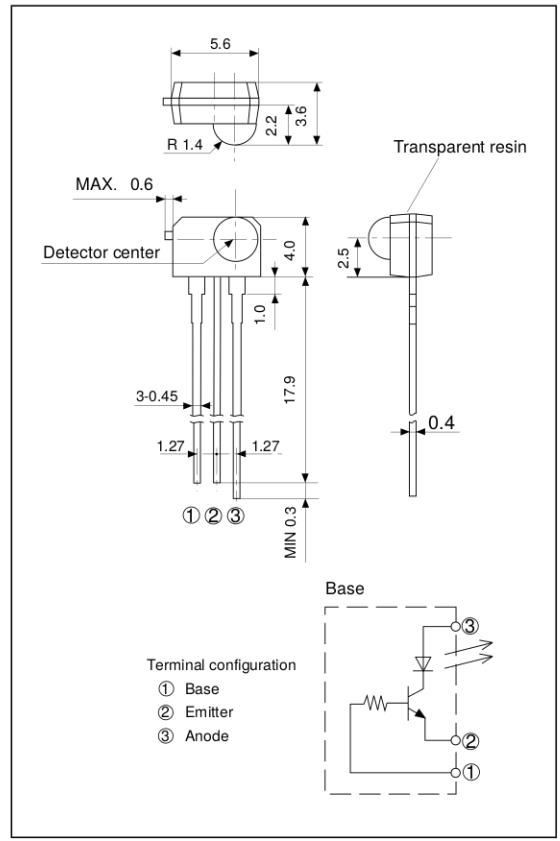
■Applications

1. Personal computers
2. Portable information terminal equipment
3. Printers
4. Word processors

IrDA : Abbreviation of the Infrared Data Association established for standardization of infrared communication specifications

■Outline Dimensions

(Unit : mm)



■Absolute Maximum Ratings

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Forward current	I_F	50	mA
*1 Peak forward current	I_{FM}	400	mA
Operating temperature	T_{opr}	- 10 to + 70	°C
Storage temperature	T_{stg}	- 20 to + 85	°C
*2 Soldering temperature	T_{sol}	260	°C

*1 Pulse width 78.1 μs, Duty ratio=3/16

*2 For MAX. 3 seconds at the position of 2 mm from the resin edge

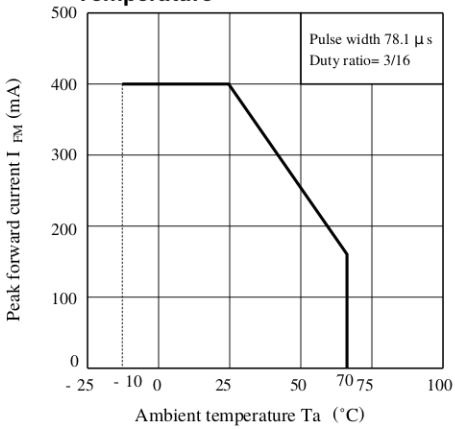
■Electro-optical Characteristics

(Ta=25 °C)

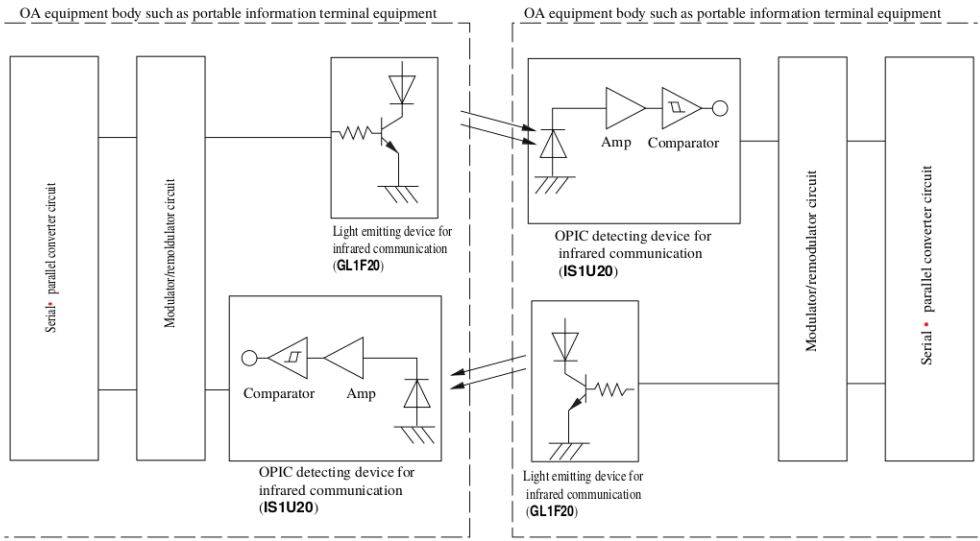
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Driving voltage	V_{CC}	-	4.75	-	5.25	V
High level input voltage	V_{IH}	-	4.5	-	V_{CC}	V
Low level input voltage	V_{IL}	-	-	-	0.4	V
Peak emission wavelength	λp	I_F = 20mA	850	870	900	nm
Radiant intensity	I_E	V_{CC} = 5V, R_L = 7.5Ω	40	-	350	mW/sr
Light pulse width	t_W	V_{in} = 4.5V	1.41	1.6	2.71	μs
Light rise time	t_r	t_{win} = 1.63 μs, Duty ratio : 3/16	-	0.23	0.6	μs
Light fall time	t_f	φ ⇐⇒ 5°, *3	-	0.17	0.6	μs
Input current	I_{IH}	V_{in} = 4.5V	1.0	-	3.0	mA
Half intensity wavelength	Δλ	I_F = 20mA	-	40	-	nm
Half intensity angle	Δθ	I_F = 20mA	-	± 20	-	°

*3 Direction of mechanical axis of the lens portion of the element : φ =0°

Fig. 1 Peak Forward Current vs. Ambient Temperature

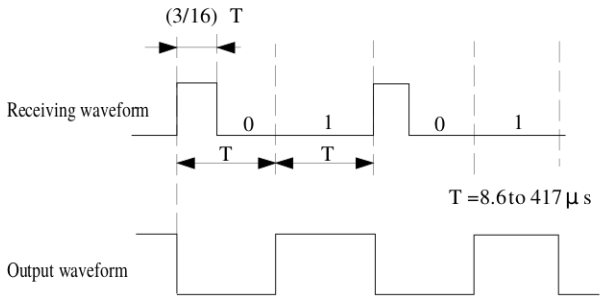


■Infrared Communication Terminal System Configuration Using GL1F20/IS1U20



■General Descriptions of IrDA1.0 System

Transmission rate : 2.4k to 115.2kbps
Modulation system : SIR
Receiving distance : 1 m
Transmitting wavelength : 850 to 900 nm
Receiving waveform : As shown in the right drawing
Output waveform : As shown in the right drawing



● Please refer to the chapter "Precautions for Use". (Page 78 to 93)