PNA461xM Series

Photodiode with amplifier functions

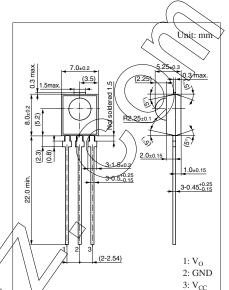
For infrared remote control systems

■ Features

- Extension distance is 11 m or more
- External parts not required
- Adoption of visible light cutoff resin
- Supports various metal holders with improved electromagnetic noise resistance

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit
Collector supply voltage	V _{CC}	- 0.5 to +7	V
Power dissipation	P_{D}	200	mW
Operating ambient temperature	Topr	-20 to +75	°C
Storage temperature	T _{stg}	-40 to +100	°C



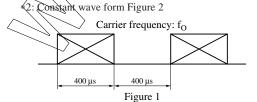
LSTLR103NC-001 Package

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■ Electrical-Optical Characteristics	$V_{cc} = 5.0 \text{ V T} = 25^{\circ} \text{ C} +$	300
	V (1 - 5.0 V, 19 - 29 V =	2 01

Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector supply voltage		V _{CC}	//	4.7	5.0	5.3	V
Output voltage high-level		V _{OH}	No signal condition	4.8	5.0	V _{CC}	V
	PNA4612M		No signal condition, I _{DH} = -10 mA	4.75	4.80		
Output voltage low-level	*2	V _{OL}	$L \le 11.0 \text{ ph}, I_{OL} = 400 \mu\text{A}$		0.35	0.50	V
Supply current		I_{CC}	No signal condition	1.8	2.4	3.0	mA
Load resistance	PNA4612M	R		15	20	25	kΩ
Maximum reception dista	nce *1	L _{max}		11.0	18.0		m
Pulse width high-level *1		T_{WH}	L ≠ 11.0 m, 16 pulse	200	400	600	μs
Pulse width low-level *1		T _{WL}	L= 11.0 m, 16 pulse	200	400	600	μs
	PNA4611M	T_{WL1}	L=11.0 m, 16 pulse	200	400	600	
		T_{WL2}	$L = 0.2 \text{ m}, 16 \text{ pulse}, T_a = 65^{\circ}\text{C} \pm 3^{\circ}\text{C}$	100		700	
Center frequency	PNA4611M	$\bigcirc f_0$			36.7		kHz
•	PNA4612M				38.0		
	PNA4613M				40.0		
	PNA4614M				56.9		
Peak sensitivity wavelength	PNA4614M	λ_{p}			940		nm

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. *1: Burst wave form Figure 1



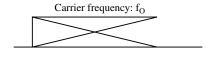
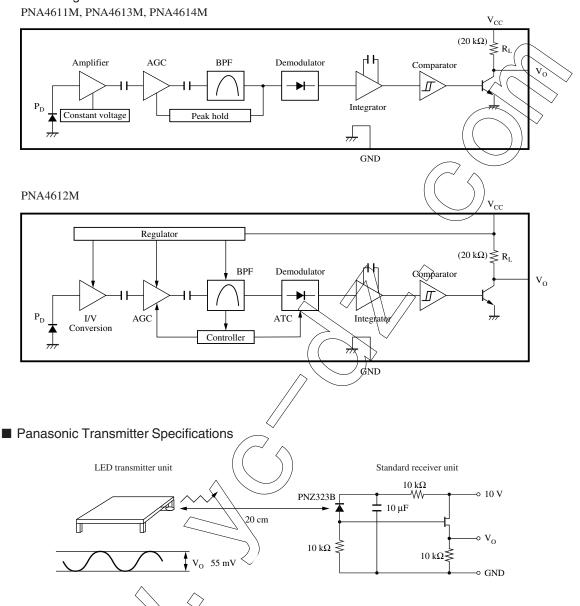


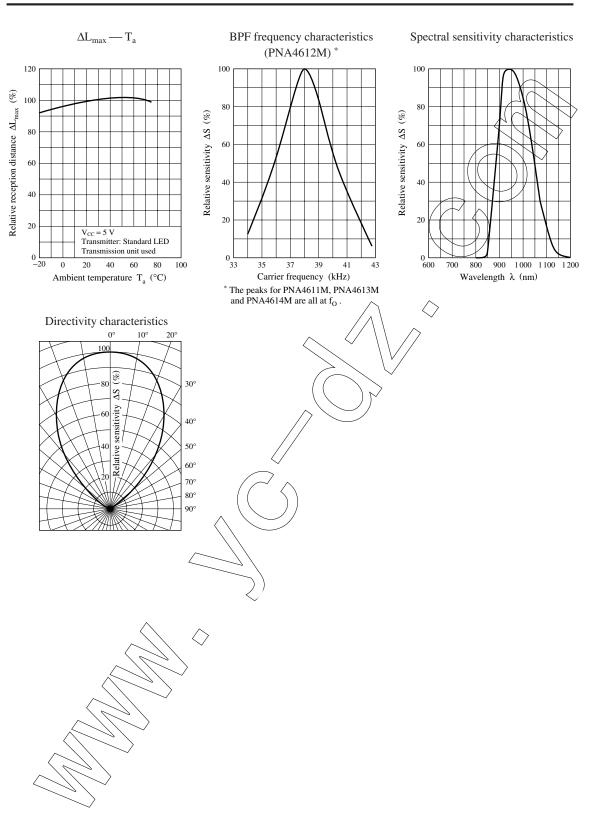
Figure 2

Panasonic

■ Block Diagram



- 1. The output of the LED transmitter unit is adjusted so that the output standard receiver unit, V_O may be 55 mV when transmitting wayes (duty $\approx 50\%$) are output from the transmitter unit, where the sensitivity to infrared emitters (S_{IR}) of PNZ323B is 0.53 μ A when the irradiance H is 12.45 μ W/cm².
- 2. The maximum detection distance of this specification is guaranteed by T_{WH} and T_{WL} being within the limits when constant 16 pulses are transmitted with the output of the transmitter unit corresponded to the maximum detection distance in the system above. (The maximum detection distance is measured in the darkness without disturbing noises.)



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