

IrDA Infrared Communication Module

☆: Under development

■RPM870-H7/☆RPM870-H12

IrDA Infrared Communication Module IrDA SIR (Low Power)

●Overview

The RPM870 Series is a module that corresponds to IrDA SIR (Low Power) standard. An infrared LED, PIN photodiode, and LSI are all contained in a single subminiature package. This module is designed for low power consumption while in waiting mode. Furthermore, it incorporates a power-down function, thus making the module perfect for mobile sets.

●Features

- 1) Applied to IrDA SIR (low power).
- 2) Low power consumption while in waiting mode (75 μ A typical).
- 3) Incorporates a power-down function that is ideal for battery-powered applications.
- 4) Supports a wide voltage range of power supply from 2.6 to 3.6V.

●Applications

Mobile phone, PDA, digital still camera, POS, and printer

●Absolute Maximum Ratings

Parameter	Symbol	Limits	Unit
Supply Voltage	Vcc	-0.3~+7.0	V
Power Dissipation	Pd	150*1	mW
Operating Temperature Range	Topr	-20~+85	°C
Storage Temperature Range	Tstg	-30~+100	°C

*1. 70mm \times 70mm, t=1.6mm, glass epoxy mounting.

Derating: 2mW/°C for operation above Ta=25°C

*2. LED peak current<90 μ s. ON duty<20%

●Recommended Operating Conditions

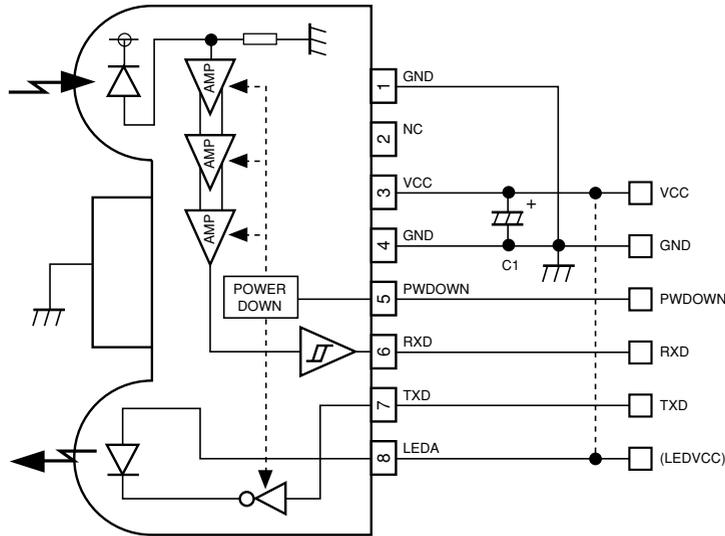
Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	2.6	3.0	3.6	V
	V _{LEDA}	2.6	3.0	5.5	V

●Electrical and Optical Characteristics (Ta=25°C, Vcc=V_{LEDA}=3.0V unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Current Consumption 1	Icc1	—	75	99	μ A	In waiting mode at no input light
Current Consumption 2	Icc2	—	0.01	0.2	μ A	In power down mode at no input light
Transmission Rate		2.4	—	115.2	kbps	
Intensity	IE	4.0	10	26	mW/sr	-15deg. \leq θ L \leq +15deg.
LED Current	I _{LED}	—	30.5	—	mA	
Half Angle (Emitter)	θ L/2	—	\pm 18	—	deg.	
Max. Emitting Pulse Width	TLEDmax	10	48	120	μ sec.	
Maximum Irradiance in Angular	Ee max.	500	—	—	mW/cm ²	-15deg. \leq θ L \leq +15deg.
Minimum Irradiance in Angular	Ee min.	—	3.6	6.8	μ W/cm ²	-15deg. \leq θ L \leq +15deg.
Half Angle (Detector)	θ D/2	\pm 15	—	—	deg.	
RXD Output Pulse Width	tWRXD	1.5	2.3	4.2	μ sec.	C _L =15pF, 2.4~115.2kbps
Latency	tRT	—	100	200	μ sec.	

●Block Diagram

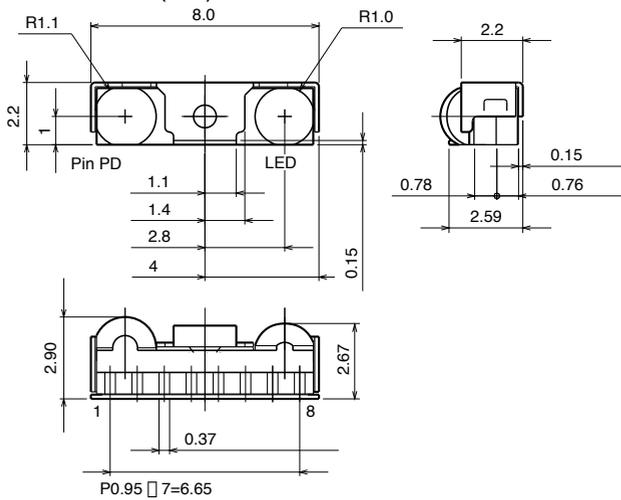
• RPM870-H7/RPM870-H12



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●External Dimensions (Unit: mm)

• RSLP8 (H7)



• RSLP8 (H12)

