IrDA Infrared Communication Module

RPM882-H7

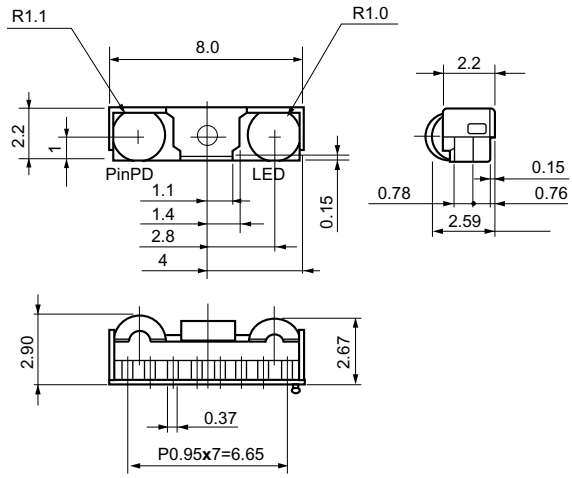
● Features

- Bilateral symmetrical and wide angle of optical characteristics both for IrDA and for RC mode.
- Typical 9m for Remote control
- IrDA Ver 1.2 Low Power(2.4kbps to 115.2kbps)
- Low voltage operation (V_{CC}=2.4 to 3.6V, V_{IO}=1.5 to 3.6V)
- Flexible Application for Transfer input
  Separate input / Common input

● Applications

- Mobile Phone, PDA etc.

● External Dimensions (Unit:mm)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Units
Supply Voltage	Vmax	7.0 *1	V
Input Voltage	Vin(4,5,6,7pin)	-0.3~VI0+0.3	V
Operation Temperature	Topr	-25~85	°C
Storage Temperature	Tstg	-30~100	°C
LED Peak Current	Ifp	300 *2	mA
Power Dissipation	Pd	300 *3	mW

*1 This applies to all pins basis groud pins(1pin)
*2 LED Peak Current:<90usec, On duty<50%
*3 When glass-epoxy board(70 x 70 x 1.6mm) mounted. In case operating environment is over 25°C, 4mW would be reduced per each 1°C stepping up.

● Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Units
Supply Voltage	VCC	2.4	3.0	3.6	V
Interface Supply Voltage	VIO	1.5	3.0	VCC	V
LED Supply Voltage	LEDVCC	2.6	3.0	5.5	V

● Electrical characteristics (VCC=VIO=3.0V, LEDVCC=3.0V, Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Consumption Current 1	$I_{CC}1$	–	80	104	µA	PWDOWN=0V, At no input light
Consumption Current 2	$I_{CC}2$	–	0.01	0.2	µA	PWDOWN=VIO, At no input light
LED Anode Current(IrDA Mode)	ILEDA1	28	40	52	mA	TXD=VIO,R1=4.7Ω,PWDOWN=0V
LED Anode Current(RC Mode)	ILEDA2	150	200	245	mA	TX-RC=VIO,R1=4.7Ω,PWDOWN=0V
RXD Output Pulse Width	twRXD	1.5	2.3	4.2	µs	C_L=15pF, 2.4~115.2kbps

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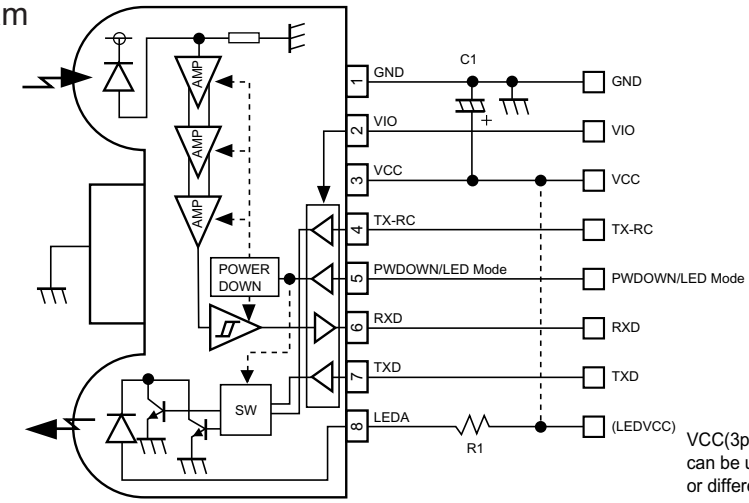
● Optical Characteristics (VCC=VIO=3.0V,LEDVCC=3.0V,Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Peak Wave Length 1(IrDA Mode)	λP1	880	890	892	nm	ILED=50mA,Duty20%
		850	-	900	nm	ILED=50mA,Duty20%,-20～60°C
Peak Wave Length 2(RC Mode)	λP2	880	890	920	nm	ILED=200mA,Duty20%
Intensity 1(IrDA Mode)	IE1	4	13	28	mW/sr	-15deg≦θL=≦15deg,R1=4.7Ω
Intensity 1(RC Mode)	IE2	30	65	130	mW/sr	-15deg≦θL=≦15deg,R1=4.7Ω
Half-Angle	θL/2	±15	±22	-	deg	
Minimum Irradiance in Angular	Eemin	-	3.6	6.8	μW/cm²	-15deg ≦θL ≦15deg
Maximum Irradiance in Angular	Eemax	500	-	-	mW/cm²	-15deg ≦θL ≦15deg
INPUT Half-Angular	θD/2	±15	-	-	deg	
Maximum Emitting Time	TLEDmax	20.5	48	120	μs	TXD=0→VIO or TX-RC=0→VIO

● Block Diagram

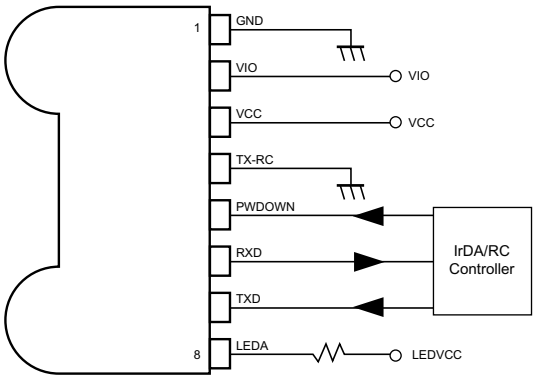


VCC(3pin),VIO(2pin) and LEDVCC(8pin) can be used on either common power source or different one

● Interface operating timing (Emitting Side)

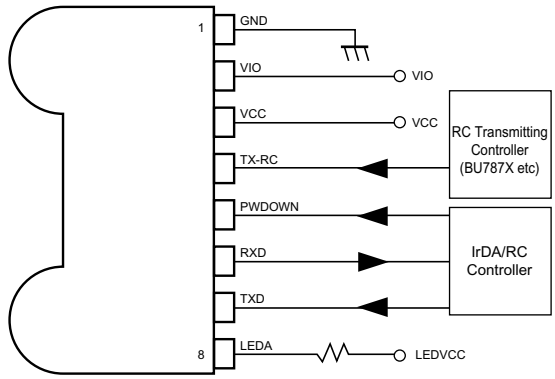
*RC...Remote Control Mode

(1) When TXD output for IrDA and TXD output for remote controller is 1 line



Input		Condition	
PWDOWN	TXD	LED Mode	Receiver Circuit
L	L	OFF	ON
L	⎍	IrDA	ON
H	L	OFF	OFF
H	⎍	RC	OFF

(2) When TXD output for IrDA and TXD output for remote controller are diffferent lines



(2) RC transmitting mode at IDA receiver active condition

Input			Condition	
PWDOWN	TX-RC	TXD	LED Mode	Receiver Circuit
L	L	L	OFF	ON
L	L	⎍	IrDA	ON
H	⎍	L	RC	OFF
H	L	L	OFF	OFF

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