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IrDA Infrared Communication Module RPM882-H7

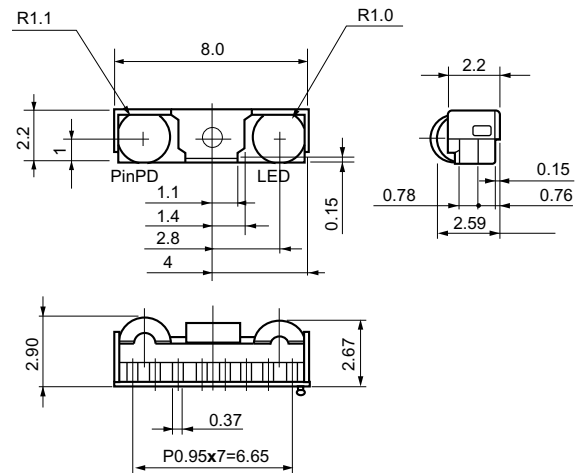
● Features

- 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 ($T_a=25^\circ C$)

Parameter	Symbol	Limits	Units
Supply Voltage	V_{max}	7.0 *1	V
Input Voltage	$V_{in}(4,5,6,7pin)$	-0.3~ $V_{IO}+0.3$	V
Operation Temperature	T_{opr}	-25~85	$^\circ C$
Storage Temperature	T_{stg}	-30~100	$^\circ C$
LED Peak Current	I_{fp}	300 *2	mA
Power Dissipation	P_d	300 *3	mW

- *1 This applies to all pins basis ground 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 $25^\circ C$, 4mW would be reduced per each $1^\circ C$ 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 ($V_{CC}=V_{IO}=3.0V$, $LEDVCC=3.0V$, $T_a=25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Consumption Current 1	I_{cc1}	—	80	104	μA	PWDOWN=0V, At no input light
Consumption Current 2	I_{cc2}	—	0.01	0.2	μA	PWDOWN=VIO, At no input light
LED Anode Current (IrDA Mode)	ILED A1	28	40	52	mA	TXD=VIO, R1=4.7 Ω , PWDOWN=0V
LED Anode Current (RC Mode)	ILED A2	150	200	245	mA	TX-RC=VIO, R1=4.7 Ω , 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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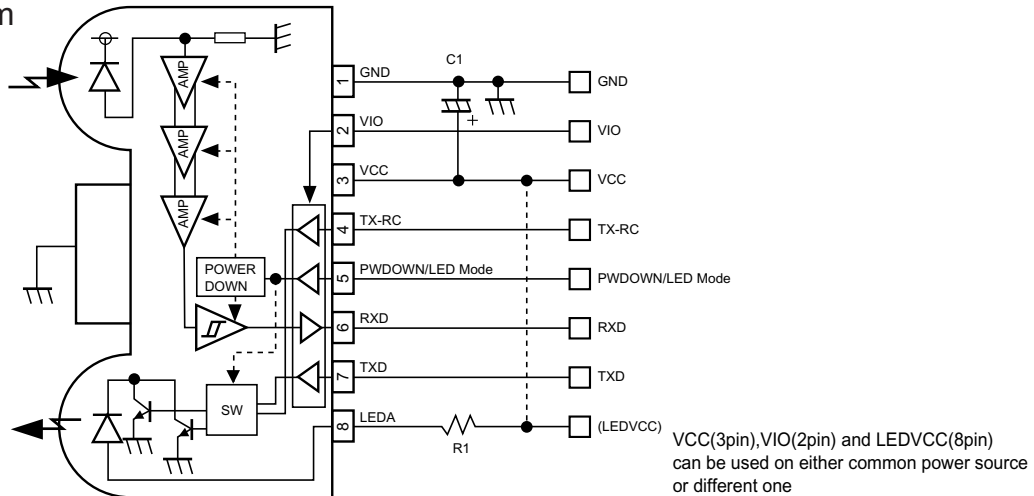
- Current specifications in effect of

Oct. 2003

● 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)	$\lambda P1$	880	890	892	nm	I _{LED} =50mA, Duty20%
Peak Wave Length 2(RC Mode)	$\lambda P2$	880	890	920	nm	I _{LED} =50mA, Duty20%, -20~60°C
Intensity 1(IrDA Mode)	IE1	4	13	28	mW/sr	-15deg ≤ θ_L ≤ 15deg, R1=4.7Ω
Intensity 1(RC Mode)	IE2	30	65	130	mW/sr	-15deg ≤ θ_L ≤ 15deg, R1=4.7Ω
Half-Angle	$\theta L/2$	±15	±22	-	deg	
Minimum Irradiance in Angular	Eemin	-	3.6	6.8	μW/cm ²	-15deg ≤ θ_L ≤ 15deg
Maximum Irradiance in Angular	Eemax	500	-	-	mW/cm ²	-15deg ≤ θ_L ≤ 15deg
INPUT Half-Angular	$\theta D/2$	±15	-	-	deg	
Maximum Emitting Time	TLEDmax	20.5	48	120	μs	TXD=0 → VIO or TX-RC=0 → VIO

● Block Diagram

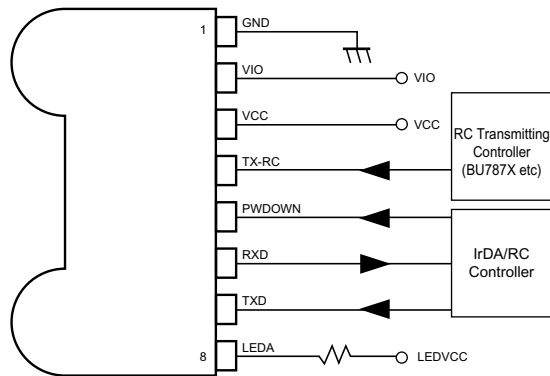
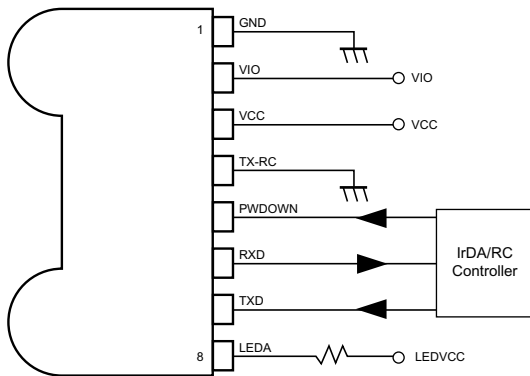


● Interface operating timing (Emitting Side)

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

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

*RC...Remote Control Mode



(2) RC transmitting mode at IrDA receiver active condition

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

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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