

IrDA Infrared Communication Module RPM882-H7

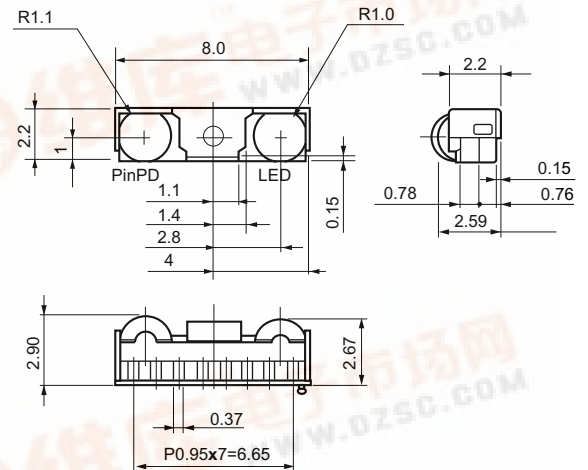
● Features

- 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)	I_{LEDA1}	28	40	52	mA	TXD=VIO, R1=4.7 Ω , PWDOWN=0V
LED Anode Current (RC Mode)	I_{LEDA2}	150	200	245	mA	TX-RC=VIO, R1=4.7 Ω , PWDOWN=0V
RXD Output Pulse Width	t_{wRXD}	1.5	2.3	4.2	μs	$C_L=15pF$, 2.4~115.2kbps

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ROHM CO., LTD.

21, Saini Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
TEL:(075)311-2121 FAX:(075)315-0172
URL <http://www.rohm.com>

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- Current specifications in effect of

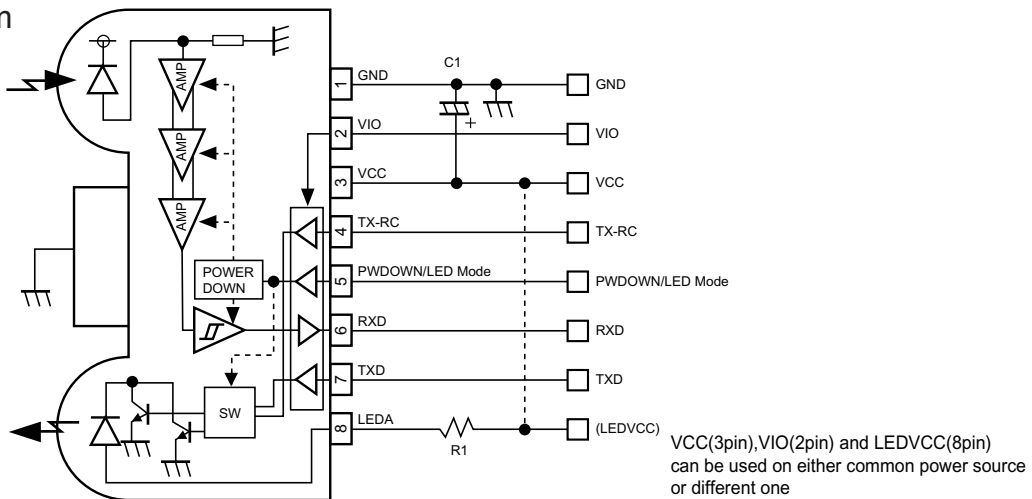
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● Optical Characteristics (VCC=VIO=3.0V, LEDVCC=3.0V, Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Peak Wave Length 1(IrDA Mode)	$\lambda P1$	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, R ₁ =4.7Ω
Intensity 1(RC Mode)	IE2	30	65	130	mW/sr	-15deg ≤ θ_L ≤ 15deg, R ₁ =4.7Ω
Half-Angle	$\theta L/2$	±15	±22	-	deg	
Minimum Irradiance in Angular	E _{emin}	-	3.6	6.8	μW/cm ²	-15deg ≤ θ_L ≤ 15deg
Maximum Irradiance in Angular	E _{emax}	500	-	-	mW/cm ²	-15deg ≤ θ_L ≤ 15deg
INPUT Half-Angular	$\theta D/2$	±15	-	-	deg	
Maximum Emitting Time	TLED _{max}	20.5	48	120	μs	TXD=0 → VIO or TX-RC=0 → VIO

● Block Diagram

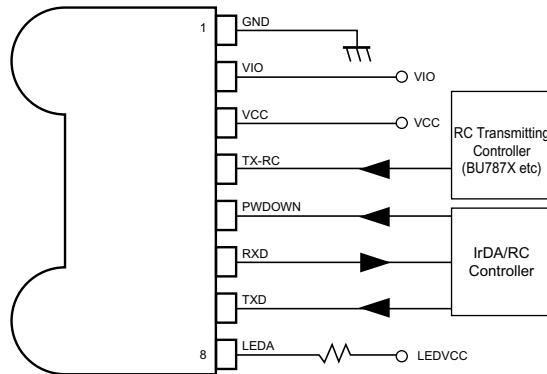
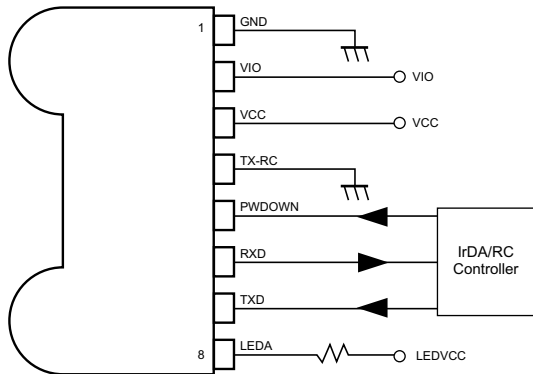


● Interface operating timing (Emitting Side)

*RC...Remote Control Mode

(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



(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

Contact us for further information about the products.

Atlanta U.S.A. / ROHM ELECTRONICS EASTERN SALES DIVISION
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TEL: +86(10)8451-2426 FAX: +86(10)6460-9518

Taiwan / ROHM ELECTRONICS TAIWAN CO., LTD.
TEL: +886(2)2500-6956 FAX: +886(2)2503-2869

Korea / ROHM ELECTRONICS KOREA CORPORATION
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Singapore / ROHM ELECTRONICS ASIA PTE. LTD. (RES/REI)
TEL: +65-332-2322 FAX: +65-332-5662

Malaysia / ROHM ELECTRONICS (MALAYSIA) SDN. BHD.
TEL: +60(3)7958-8355 FAX: +60(3)7958-8377

Philippines / ROHM ELECTRONICS (PHILIPPINES) SALES CORPORATION
TEL: +63(2)807-6872 FAX: +63(2)809-1422

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TEL: +66(2)254-4890 FAX: +66(2)256-6334

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