
RMCM01

OEM Component, wireless receiver module



APPLICATIONS:

- Exercise equipment
- When small size is required
- High volume products

FEATURES

- Wireless receiver
- Coded and non coded reception
- Surface mount unit

DESCRIPTION

RMCM01 is a Polar wireless receiver module product. The basic operation of the system is to detect the heart rate of a user from the transmitter belt the user wears while exercising. Depending of the output selected, the RMCM01 will either lock in to a transmission code (coded mode) or to a FPLS mode that outputs all detected transmission bursts. On coded mode only the locked in code is outputted.

The RMCM01 will operate in environments where low current consumption is required. Voltage range is fitted for battery operated units (from 2.5V to 3.4V).

The available options are listed on the last page of this datasheet. Please contact your local sales representative to discuss your requirements. Contact information is found on the footer of each page.



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PIN CONFIGURATION



PIN DESCRIPTION

Pin name	Function
FPLS	Pulse output
HR	Pulse output
OSC	Crystal terminal
F32KIN	Crystal terminal or clock input
OSC_ON	Clock selection (input/output)
VCC	Operating voltage
RESET	Reset
WIDB_DET	Wide band or narrow band selection
LX2	Antenna coil terminal
LX1	Antenna coil terminal
GND	Ground

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Supply voltage	V _{cc}	2.5	3.4	V
Storage temperature	T _s	-30	+70	°C
Operating temperature	T _o	+5	+50	°C

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RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply voltage	V _{cc}	T=25°C		3.0		V
Supply current average	I _{avg}	T=25°C V _{cc} =5.0V			60	μA
Storage temperature	T _s			+25		°C
Operating temperature	T _o			+25		°C
Wireless reception range (typical)*	l	T=25°C V _{cc} =3.0V			130	cm

*) The reception range can be adjusted by connecting a resistor between LX1 and LX2. The product is optimized for maximum range and it should be adjusted on end product.

ELECTRICAL CHARACTERISTICS BY PIN

Pin name	Pin status
FPLS	Detector output. This pin can be used on non coded state. Nominal pulse width is 6ms.
HR	Heart rate output. Coded and non coded function. Will have a delay max 15 second as the pin outputs the locked in heart rate. Pulse width is 1ms.
OSC	Crystal terminal
F32KIN	Crystal terminal or DC isolated clock input
OSC_ON	Connect to ground if external clock is used. Connect to V _{cc} if crystal is used.
VCC	Operating voltage
RESET	For reset, pull pin down. Recommended pull down resistor 1kΩ
WIDB_DET	Wide band reception, connect to V _{cc} . Narrow band reception, connect to ground.
LX2	Antenna coil terminal
LX1	Antenna coil terminal
GND	Ground

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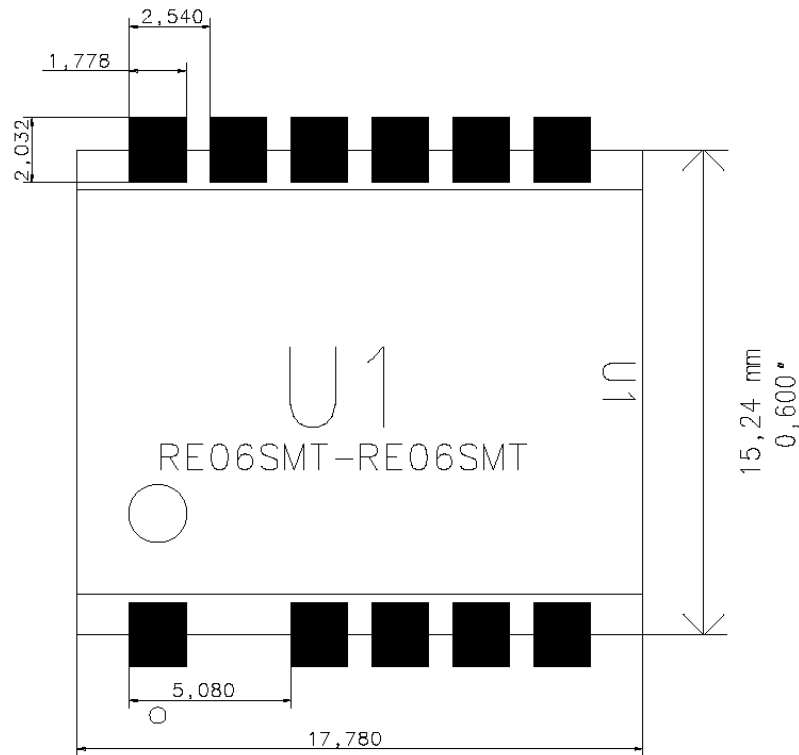


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BOARD DIMENSIONS

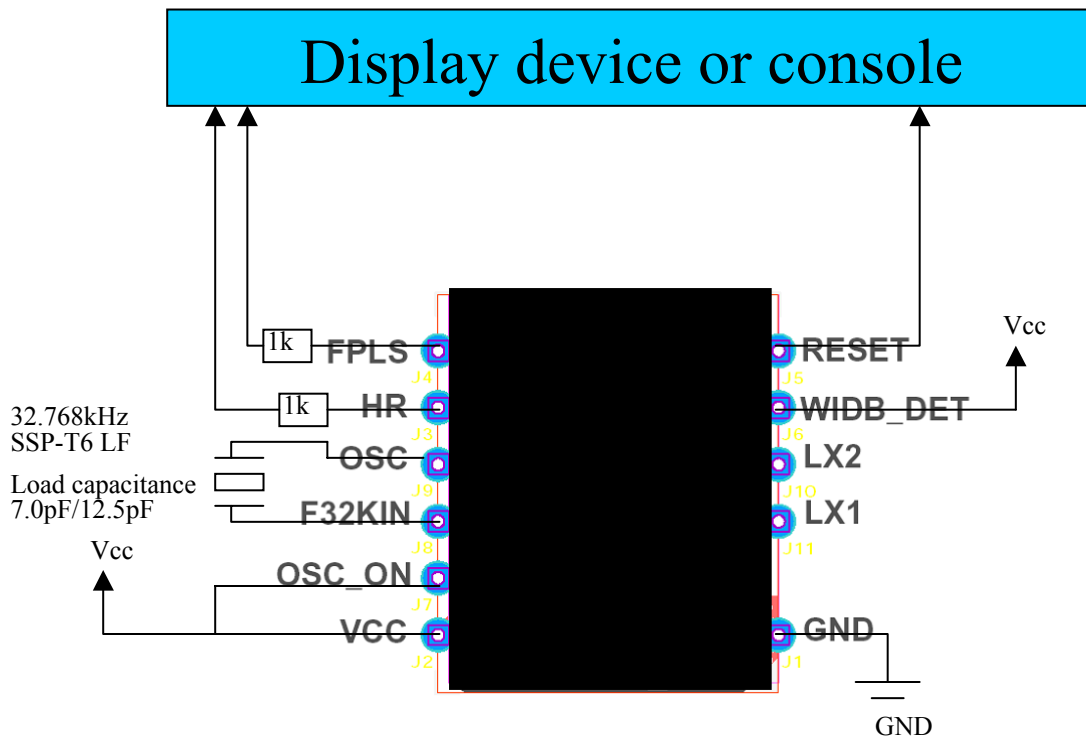
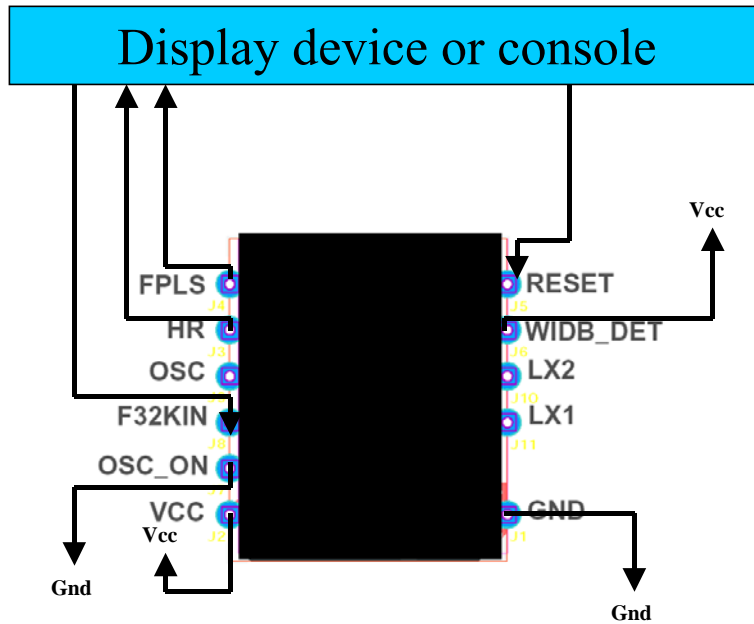
Dimension	Value
Length	17.8 mm
Width	15.3 mm
Height	5.2 mm



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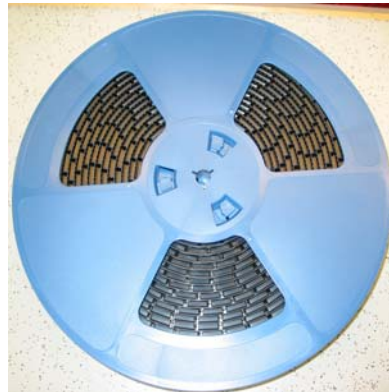
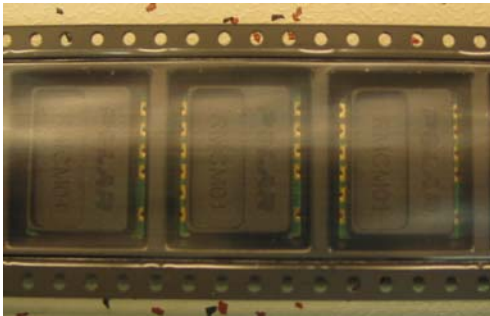
APPLICATION NOTE FOR TYPICAL CONNECTIONS



SOLDERING PROFILE

SnAgCu Reflow Soldering Profile		
Parameter	Ref	Specification
Pre-heating		2 °C/sec
Soak time	t_{soak}	2...3 min
Time above 217°C	t_1	Max 60 sec
Time above 230	t_2	20...50 sec
Time above 250	t_3	Max 10 sec
Peak temperature	T_{peak}	245...255°C
Cooling		Max -6 °C/sec

REEL INFORMATION





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ORDERING INFORMATION

Currently available versions from stock

Board number	Board name
39025074	RMCM01
91030999	RMCM01 Tape and Reel package
39030155	RMCM01 WOH
91037111	RMCM01 WOH T/R

List of functions on standard models

Function	39025074	39030155	91030999	91037111
RMCM01 -receiver	X	X	X	X
Housing	X		X	
Epoxy	X		X	
Packing in 500pcs tape and reel			X	X
Packing in tray	X	X		

Alternate configurations are available upon request

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