

## Real Time Clock Module ( I<sup>2</sup>C-BUS)



# YSN8111

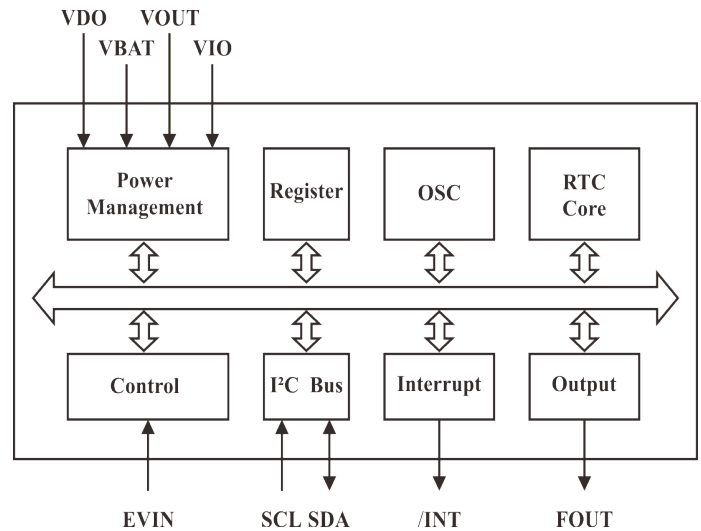
Time stamp function  
Low current consumption

YSN8111E(SMD 3225)

### Overview

- Ultra-Low current consumption:250nA(Typ.)
- High stability:  $\pm 11.5\text{ppm} / \pm 23\text{ppm} @ 25$
- Power Supply Voltage: 1.6V~5.5V
- Operation Temperature Range: -40 ~+85
- Leap years auto correction
- Backup battery switchover function
- Timer output function with adjustable period
- Size:3.2mm  $\times$  2.5mm  $\times$  0.9mm
- Build-in Cystal: 32.768KHz
- Communication Interface: I2C bus
- RoHS2.0, REACH & Halogen-free compliant

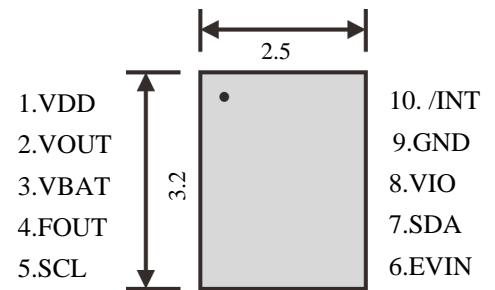
### Block diagram



### Pin Fuction

Pin	PinName	I/O	Description
1	VDD	-	Power supply
2	V <sub>OUT</sub>	Out	Internal voltage output pin.Connect bypass capacitor of 1.0uF.
3	V <sub>BAT</sub>	-	Backup battery pin.Connect to large-capacity capacitors or a backup battery.Connect to VDD when switchover function is not necessary.
4	FOUT	Out	Frequency output.Frequency can be set by FSEL bits.
5	SCL	In	I <sup>2</sup> C clock signal
6	EVIN	In	Trigger input terminal for time stamps.
7	SDA	In/Out	I <sup>2</sup> C data signal
8	V <sub>IO</sub>	-	Power supply for IO.
9	GND	-	Ground
10	/INT	Out	Interrupt Output,Open-Drain

### Terminal Connection



YSN8111E (SMD 3225)

### Specifications (Characteristics)

Parameter	Symbol	Value			Unit	Remarks
		Min.	Typ.	Max.		
Power Supply Voltage(Start UP)	VDD	2.5	3.0	5.5	V	/
Power Supply Voltage(Operating)	V <sub>BAT</sub> /V <sub>DD</sub>	1.2	3.0	5.5	V	/
Interface Voltage	V <sub>IO</sub>	1.6	3.0	5.5	V	If INIEN=1,VDD<V <sub>DET</sub> ,the interface is disable
Operation Temperature	T <sub>OPR</sub>	-40	25	125	°C	/
Frequency stability	$\Delta f1/f$	$\pm 23/\pm 11.5$			PPM	@25°C, VDD=3.0V:
	$\Delta f2/f$	-120		10	PPM	VDD=3.0V;-20°C~+70°C;Reference frequency@ 25°C
Oscillation start time	t <sub>STA</sub>			1	S	@25°C
Year Aging	f <sub>a</sub>			$\pm 5$	PPM	First year@25°C
Average Current1	IDD1		0.25	1.4	$\mu\text{A}$	SCL=SDA=High,FOUT=OFF,/INT=OFF,VDD=VOUT=VBAT=3.0V,VIO=3.0V,40-85°C,CHGEN=0b,INIEN=0b