

Real Time Clock Module (I²C-BUS)



YSN8111

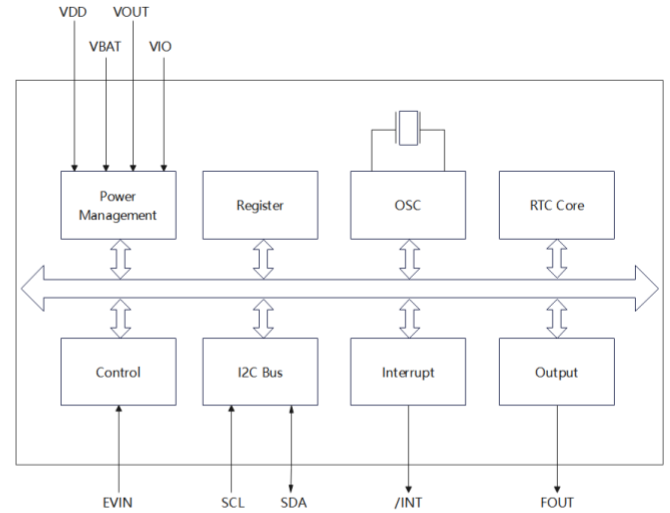
Time stamp function
Low current consumption

YSN8111E(SMD 3225)

Overview

- Ultra-Low current consumption:250nA(Typ.)
- High stability: $\pm 11.5\text{ppm} / \pm 23\text{ppm} @ 25^\circ\text{C}$
- Power Supply Voltage: 1.6V~5.5V
- Operation Temperature Range: $-40^\circ\text{C} \sim +85^\circ\text{C}$
- 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 Crystal: 32.768KHz
- Communication Interface: I2C bus
- RoHS2.0, REACH & Halogen-free compliant

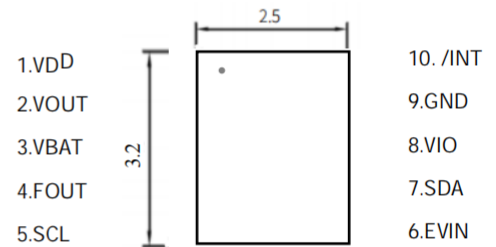
Block diagram



Pin Fuction

Pin	Pin Name	I/O	Description
1	VDD	-	Power supply
2	V _{OUT}	Out	Internal voltage output pin. Connect bypass capacitor of 1.0uF.
3	V _{BAT}	-	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 ² C clock signal
6	EVIN	In	Trigger input terminal for time stamps.
7	SDA	In/Out	I ² C data signal
8	V _{IO}	-	Power supply for IO.
9	GND	-	Ground
10	/INT	Out	Interrupt Output, Open-Drain

Terminal Connection



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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 _{BAT} /V _{DD}	1.2	3.0	5.5	V	
Interface Voltage	V _{IO}	1.6	3.0	5.5	V	If INIEN = 1, VDD < V _{DET} , the interface is disable
Operation Temperature	TOPR	-40	25	125	°C	
Frequency stability	$\Delta f_1/f$	$\pm 23/\pm 11.5$			ppm	@ 25°C, VDD=3.0V;
	$\Delta f_2/f$	-120		10	ppm	VDD=3.0V; -20°C ~ +70°C; Reference frequency @ 25°C
Oscillation start time	t _{STA}			1	s	@25°C
Year Aging	f _a			± 5	ppm	First year@25°C
Average CurrentI	IDD1		0.25	1.4	μA	SCL = SDA = High, FOUT = OFF, /INT = OFF, VDD = VOUT = VBAT = 3.0V, VIO = 3.0 V, -40 ~ 85°C, CHGEN = 0b, INIEN = 0b