

RTC Modules (Real Time Clocks)

FREQUENCY CHARACTERISTICS

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Frequency Tolerance	$\Delta f/f$	Ta=25°C V _{DD} =3.0V	5±23※			ppm
Start-up Time	t _{STA}	Ta=25°C V _{DD} =1.8V			0.9	s
		Ta=40°C~85°C V _{DD} =1.8V~5.5V			2.0	s

※ Equals to a monthly tolerance of ±1 minute per month

CURRENT CONSUMPTION CHARACTERISTICS

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit.
Current Consumption	I _{DD1}	FOE=GND F _{out} =Hi-Z	V _{DD} =5V		2.6	μA
	I _{DD2}		V _{DD} =3V		2.5	
	I _{DD3}	FOE=V _{DD} F _{out} =32.768kHz CL=0pF	V _{DD} =5V		3.6	
	I _{DD4}		V _{DD} =3V		3.0	
	I _{DD5}		V _{DD} =5V		7.5	
	I _{DD6}		V _{DD} =3V		6.2	

RTC Modules (Real Time Clocks)

7.2 TR8804

RTC Modules(I²C-Bus)
Time stamp and digital temperature compensation(Automotive Grade)

Pb-Free



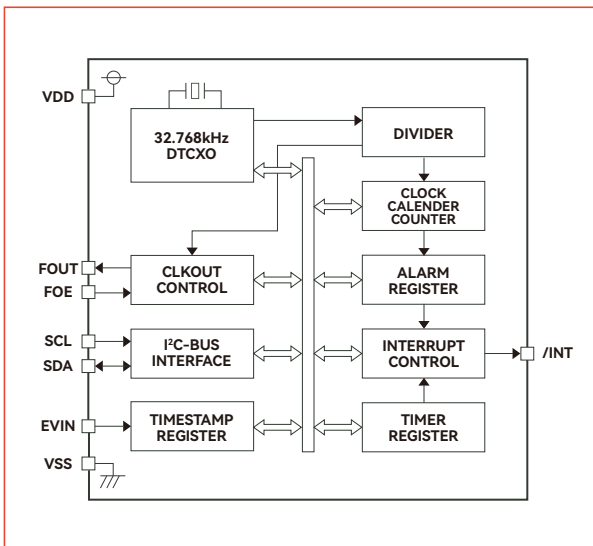
RoHS compliant



FEATURES AND APPLICATIONS

- Built-in 32.768kHz DTCXO
- Interface Type: I2 C
- I2 C-Bus Voltage: 1.5--5.5V
- Fixed-cycle Timer Interrupt Function
- Time update interrupt Function
- AEC-Q100&AEC-Q200 compliant
- Support High Speed I2 C-Bus Agreement(400KHz)
- Clock Output Voltage: 1.6--5.5V
- Temperature Compensation Voltage: 1.5--5.5V
- Alarming interrupt for week, day, hour, and minute
- Temperature compensation signal output of 32.768kHz

STRUCTURE



OVERVIEW

- ◆ Interface Type: 400kHz High-speed I²C-Bus
- ◆ Clock Output: Frequency 32768Hz, 1024Hz, 1Hz available, CMOS output controlled by FOE
- ◆ Fixed-cycle timer: Maximum counting cycle as long as 32 years available, source clock 1/60Hz, 1Hz, 64Hz, 4096Hz, /INT output interrupt signal available
- ◆ Time Stamp: Time stamp counting from year to second, triggered by EVIN input, able to be monitored by I²C
- ◆ Fixed-cycle arouse function: alarm interrupt output from day to minute
- ◆ Time update interrupt: Interrupt every second or minute
- ◆ Self-monitor: Interrupt, voltage falling test

EXTERNAL DIMENSIONS

Pin	I/ O	Function
1#	FOE	I The enable pin of FOUT. FOUT is the clock output when FOE is HIGH and high impedance when FOE is LOW
2#	VDD	— Supply voltage positive polarity connection
3#	EMIN	I Time stamp,psignal input
4#	FOUT	O CMOS Clock Output
5#	SCL	I I ² C-bus serial interface clock input
6#	SOUT	O Internal register special status flag output
7#	SDA	I/O I ² C-bus communication data transfer terminal
8#	TEST	I For internal testing, no connection required
9#	VSS	— Supply voltage ground connection
10#	/INT	O 1Hz signal, alarm interrupt signal, timed interrupt signal, and time update interrupt signal, N-channel open-drain output

RTC Modules (Real Time Clocks)

FREQUENCY CHARACTERISTICS

Parameter		Conditions	Min.	Typ.	Max.	Unit.	
Operating Voltage	VDD	—	1.6	3.0	5.5	V	
Operating Temperature	Ta	—	-40	25	105	°C	
Frequency Tolerance	$\Delta f/f$	Ta=-40°C~85°C VDD=3.0V	—	—	±5	10 ⁻⁶	
		Ta=-40°C~105°C VDD=3.0V	—	—	±8	10 ⁻⁶	
Start-up Time	Tsta	Ta=-40°C~85°C VDD=1.6~5.5V			TBD	S	
Current Consumption	I _{DD1}	SCL=SDA=/INT=VDD FOE=VSS 2s Temperature Compensation Interval	VDD=5V		TBD	TBD	μA
	I _{DD2}		VDD=3V		TBD	TBD	

FREQUENCY TEMPERATURE CHARACTERISTICS

32.768kHz DTCXO Frequency Temperature Characteristics(Instance)

