

The ECS-RTC-3225-5699C3 Real Time Clock Module (I<sup>2</sup>C-Bus) with built in 32.768 kHz TCXO. It supports calendar (year, month, day, hour, minute,second), clock, temp sensor, VBAT and timer functions.



- Built in 32.768 khz TCXO
- Backup battery switchover function
- Extended temp range
- ±3 ppm Stability -40 ~ +85°C
- Built in temperature sensor

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-RTC-3225-5699C3			UNITS
		MIN	TYP	MAX	
Power Supply Voltage	Normal mode	2.5	3.0	5.0	V
Power Supply Voltage	VDD=VBAT (Note 1)	1.6	3.0	5.0	V
Backup Battery	VBAT	1.6	3.0	5.0	V
Current Consumption I <sub>DD</sub>	Battery Supply		1.0		µA
Stability	-40 ~ +85°C			±3	ppm
Oscillation start time	@ +25°C			1	s
Aging	Per Year			±3	ppm
Temp. Sensor Accuracy	T <sub>emp</sub> VDD=3.0V			±5	°C
Duty Cycle	t <sub>w</sub> /t	40		60	%
Operating Temperature	T <sub>opr</sub>	-40		+85	°C
Storage Temperature	T <sub>stg</sub>	-40		+85	°C

**Note 1)** To apply Min Value of VDD and VBAT, VDD and VBAT need to be supplied with more than 2.5V at least for the oscillation to stabilize (oscillation start time tSTA).

### Block Diagram

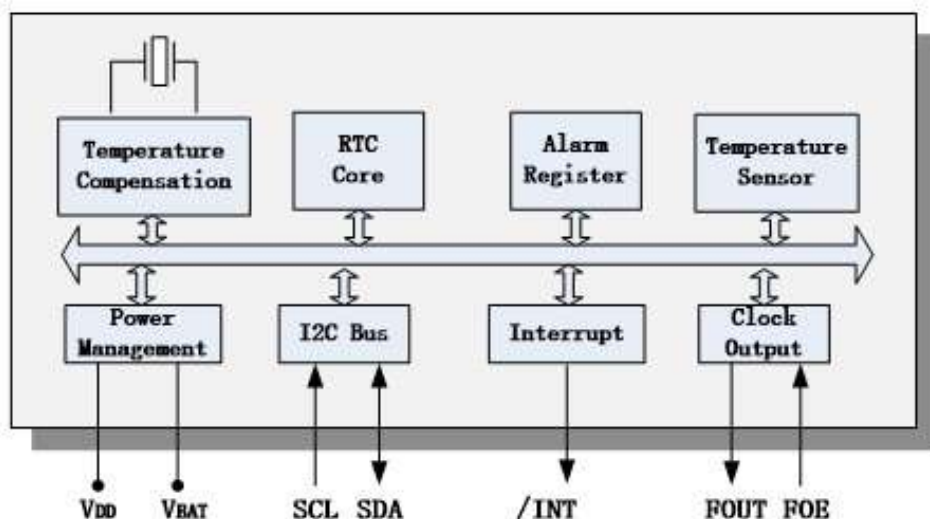
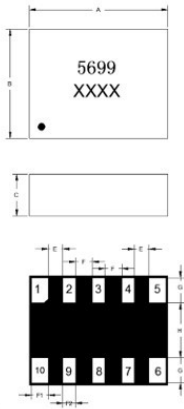


Figure 1) Top, and Side Views

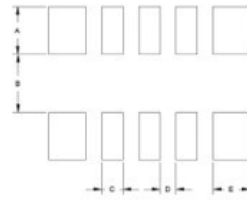
**PART NUMBER: ECS-RTC-3225-5699C3-TR**

## Dimensions (mm)



Dimension	Min.	Typ.	Max.
A	3.0	3.2	3.4
B	2.3	2.5	2.7
C	--	1.0	--
E	--	0.3	--
F	--	0.4	--
G	--	0.6	--
H	--	1.3	--
F1	--	0.45	--
F2	--	0.3	--

(Unit: mm)



Dimension	Max.
A	0.9
B	1.1
C	0.4
D	0.3
E	0.7

(Unit: mm)

Figure 1) Top, Side, Bottom View

Figure 2) Suggested Soldering Pattern

Pin Number	Pin Name	I/O	Description
1	FOE	In	FOUT output control pin. "1" - enable FOUT, "0"- FOUT Hi-Z
2	V <sub>DD</sub>	-	Power supply
3	V <sub>BAT</sub>	-	Backup battery pin. Connect to large-capacity capacitors or a backup battery. Connect to V <sub>DD</sub> when switchover function is not necessary
4	FOUT	Out	Frequency output. Controlled by FOE. Frequency can be set by FSEL bits.
5	SCL	In	I <sup>2</sup> C clock signal
6	T1	-	Manufacturer test only. Ensure to be floating
7	SDA	In/Out	I <sup>2</sup> C data signal
8	T2	-	Manufacturer test only. Ensure to be floating
9	GND	-	Ground
10	/INT	Out	Interrupt Output, Open-Drain

Figure 3) Pin Function