

ARTC4050-US-PF



RTC module, I²C interface, 3.2 x 1.5 x 0.8mm

Features:

Ultra small SMT ceramic package with integrated quartz crystal
Automotive AEC-Q200 compliant options
Programmable Alarm and Interrupt



Description:

This ultra small RTC Module has been specially designed for miniature and cost sensitive high volume applications.

The very small SMT ceramic package combines the 32.768 kHz crystal unit with the CMOS-based oscillator and real-time-clock circuitry. The clock function provides tenths/hundredths of seconds, seconds, minutes and hours. The calendar function tracks date, month, year and century with automatic leap year compensation. Programmable CLKOUT frequencies, alarm settings and watchdog function increase flexibility using this device.

Electrical characteristics at 25°C						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Supply voltage	V _{DD}	1.3		4.4	V	I2C Bus active
Supply voltage	V _{DD}	1.0		4.4	V	Time keeping
Current consumption during access	I _{DD}		35		mA	fsc1 = 400kHz, V _{DD} 3V
			20		µA	fsc1 = 400kHz, V _{DD} 2V
Current consumption Time keeping mode	I _{DDO}		350	500	nA	fsc1 = 0Hz, V _{DD} 3V
			270	400	nA	fsc1 = 0Hz, V _{DD} 1V
CLKOUT frequency		32768...to...1			Hz	Programmable
Frequency tolerance	ΔF/F	±20			ppm	@ 25°C
Aging first year max.	ΔF/F	±3			ppm	@ 25°C
Frequency vs. temp.	ΔF/F ₀	-0.035 ppm/°C ² (T-To) ² ± 10%			ppm	20 ≤ To ≤ 30
Environmental characteristics						
Storage temp. Range		-55 to +125			°C	
TA operating temp. range		-40 to +85			°C	
Shock resistance		Max ±5.0			ppm	5000 g, 0.3ms, ½ sine
Vibration resistance		Max ±5.0			ppm	20 g/10-2000Hz
Other information						
Package-type		Ceramic 8-pin Metal Lid				
Termination		For SMD mounting Au plated pads				
Processing		Reflow soldering 260°C / 20 s max				
Packaging (Tape & Reel)		1kpcs/reel, 3kpcs/reel				

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ISO 9001 Registered

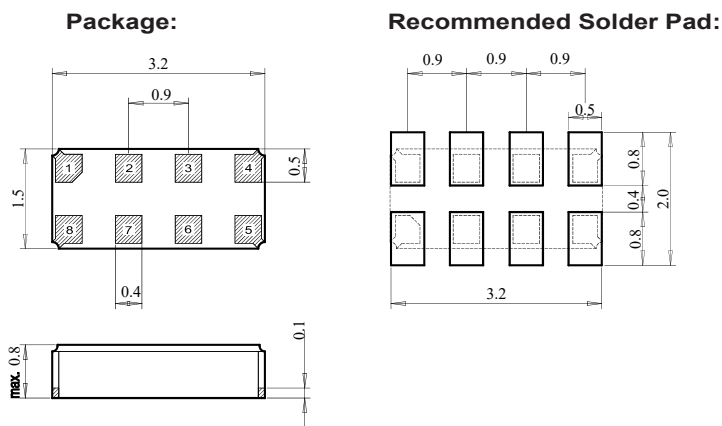
Specifications subject to change without notification

ARTC4050-US-PF

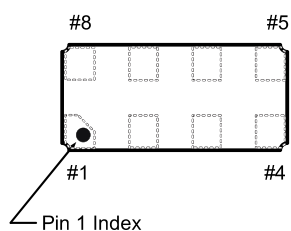
RTC module, I²C interface, 3.2 x 1.5 x 0.8mm



Mechanical dimensions and Pin functions

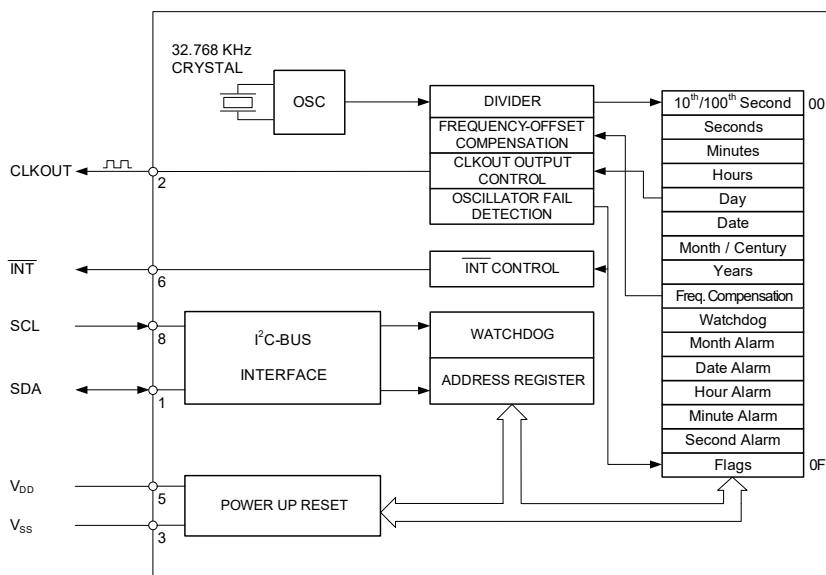


All dimensions in mm typical



Pin	Connection	
1	SDA	Serial Data
2	CLKOUT	Frequency Output
3	V _{SS}	Ground
4	NC	not connected
5	V _{DD}	Power Supply Voltage
6	INT	Interrupt Output
7	NC	not connected
8	SCL	Serial Clock Input

Mechanical dimensions and Pin functions and test circuits

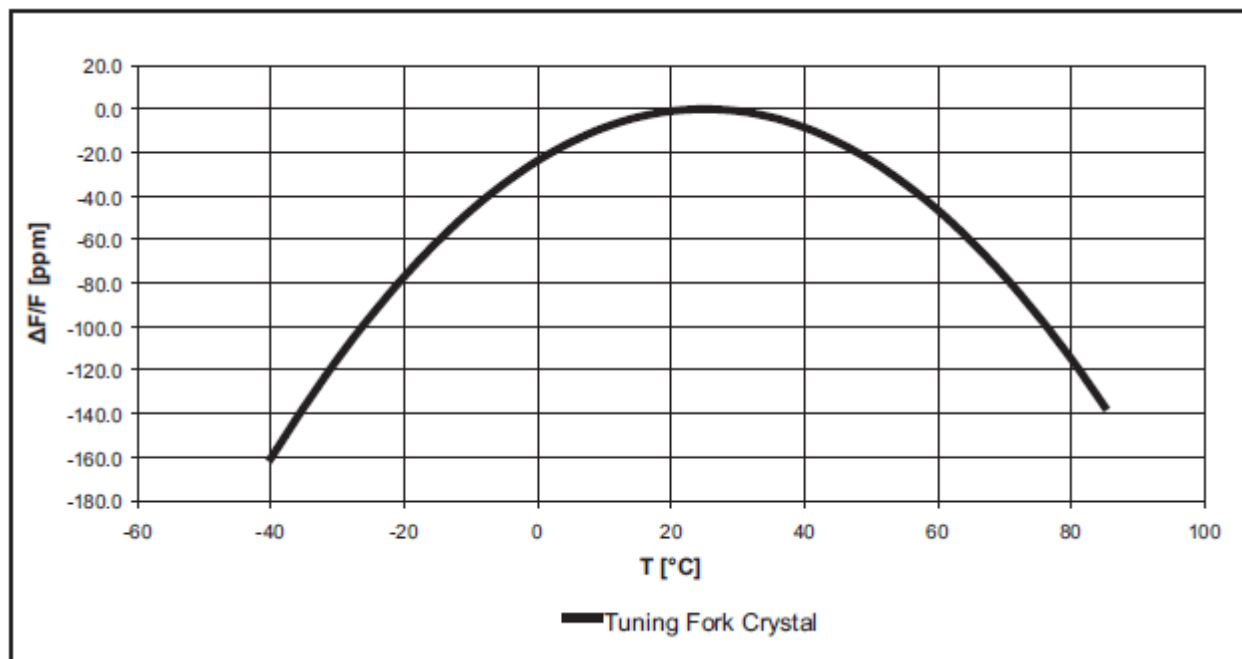


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Frequency stability vs operating temperature



Drawing control: (Internal use only)
Commodity code: 9110 9000
Issue number : N1
Date : 01/06/2018
Internal reference : M1

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