

DIMENSIONS Package: **Recommended Solder Pad:** 5,0 1,0 1,0 1,0 1,0 1,0 0,4 0,6 0.9 35 3,2 4 0 2,2 Ċ, 0,9 4,6 ဖ Ö max

Real-Time Clock Module with I²C-Bus

V-3029-C2

APPLICATIONS

IoT Metering Industrial Portables Automotive Health Care

DESCRIPTION

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The RV-3029-C2 is a SMT Real-Time Clock Module that incorporates an integrated CMOS circuit together with an XTAL. It operates under vacuum in a hermetically sealed ceramic package with glass lid.

All dimensions in mm typical

FEATURES

Low power consumption: 800 nA @ 3 V. Wide operating voltage range: 1.3 V to 5.5 V. Time accuracy, temp. compensated: Option A: -40 to +85°C, ±6 ppm, Option B: -40 to +85°C, ±25 ppm. Extended operating temperature range: -40 to +125°C. Automatic Backup Switchover and Trickle Charger function.

Provides year, month, weekday, date, hours, minutes and seconds. Timer and Alarm functions.

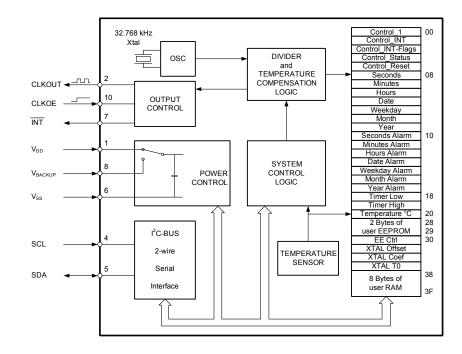
Clock output frequencies: 32.768 kHz, 1024 Hz, 32 Hz, 1 Hz.

2 bytes non-volatile user memory, 8 bytes user RAM.

I²C-bus interface: 400 kHz.

100% Pb-free, RoHS-compliant.

Automotive qualification according to AEC-Q200 available.



BLOCK DIAGRAM

ELECTRICAL CHARACTERISTICS AT 25°C

More detailed information can be found in the Application Manual.

ENVIRONMENTAL CHARACTERISTICS

TERMINATIONS AND PROCESSING

FREQUENCY TEMPERATURE CHARACTERISTICS

PIN CONNECTIONS TOP VIEW

ORDERING INFORMATION

	Symbol	Cor	dition	Min.	Тур.	Мах	Unit
Supply voltage	V _{DD}	Time	keeping	1.3		5.5	V
Supply voltage	V _{DD}	Thermo	om. active	2.1		5.5	V
Current consumption Time keeping mode	I _{DDO}		s inactive, ₀ = 3 V		800	1000	nA
Time acc. Opt. A / B	∆t/t	–40 to +85°C		±6 / ±25		5	ppm
Aging first year max.	ΔF/F	@ 25°C		±3			ppm
	• · · · ·		Co	nditior	IS	Max	. Dev
Storage temp. range			_55 t	to +125°C			
TA Operating temperature range		;	-40 to +85°C				
TB Extended oper. temp. range			-40 1	40 to +125°C			
Shock resistance		ΔF/F	5000 g, 0	0.3 ms, ½ sine ±5 ppm			
Vibration resistance		$\Delta F/F$	20 g / ′	10–2000 Hz ±5 ppm		ppm	
Package	Term	nination		I	Proces	sing	
SON-10	Au flas	ished pads IPC/JEDEC 260°C / 2					
-300	— Tuning F	υικ υιγςία	ai —			1	
-350 -30 -10		30 5	0 70	90	110 1] 30 T[°(c]
		30 5 Pin 1	0 70 Connec V _{DD}	tion Powe	er Suppl	y Volta	-
-50 -30 -11	gnation	30 50 Pin 1 2	0 70 Connec	tion Powe Clocl	er Supply	y Volta	-
-50 -30 -11	gnation #6	30 5 Pin 1	Connec V _{DD} CLKOUT	tion Powe Clock	er Suppl	y Voltaç	-
-50 -30 -10 Part Desi	gnation #6	Pin 1 2 3 4 5	Connec V _{DD} CLKOUT NC SCL SDA	tion Powe Clock Not c Seria Seria	er Supply Contput connecte I Clock I I Data	y Voltaç	-
-50 -30 -11	gnation #6	30 50 Pin 1 2 3 4	Connec V _{DD} CLKOUT NC SCL	tion Powe Clock Not c Seria Seria Grou	er Supply Contput connecte I Clock I I Data	y Voltaç ed Input	-
-50 -30 -10 Part Desi	gnation #6	Pin 1 2 3 4 5 6 7 8	D 70 Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP}	tion Powe Clock Not c Seria Seria Grou Intern Back	er Supply < Output connecte I Clock I I Data nd rupt Outp up Supp	y Voltag d Input put	ge
-50 -30 -10 Part Desi #10 3029 , M825A1	gnation #6	Pin 1 2 3 4 5 6 7	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT	tion Powe Clock Not c Seria Seria Grou Interi Back Not c	er Supply < Output connecte Il Clock I Il Data nd rupt Outp	y Voltag ed Input put ply Volta	ge
-50 -30 -10 Part Desi #10 Bar Desi #10 Product D Product D Pin 1 Index	gnation #6	30 50 Pin 1 2 3 4 5 6 7 8 9 10	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE	tion Powe Clock Not c Seria Seria Grou Interi Back Not c	er Suppl < Output connecte Il Clock I Il Data nd upt Outp up Supp connecte	y Voltag ed Input put ply Volta	ge
-50 -30 -10 Part Desi #10 Bar Desi #10 Product D Product D Pin 1 Index	gnation #6 	30 50 Pin 1 2 3 4 5 6 7 8 9 10	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE	tion Powe Clocl Not c Seria Grou Intern Back Not c Clocl	er Supply < Output connecte Il Clock I Il Data nd rupt Output connecte < Output	y Voltag ed Input out Volta d Enable	ge
-50 -30 -10 Part Desi #10 Part Desi 3029 , M825A1 #1 Product D Pin 1 Index RV - 3025	gnation #6 	30 50 Pin 1 2 3 4 5 6 7 8 9 10	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE	tion Powe Clock Not c Seria Grou Intern Back Not c Clock	er Suppl < Output connecte I Clock I I Data nd up Supp connecte < Output 	y Voltas ed Input oly Volta ed Enable	ge
-50 -30 -10 Part Desi #10 Part Desi #10 3029 , M825A1 #1 Product D Pin 1 Index RTC module	gnation #6 #5 ate Code	30 50 Pin 1 2 3 4 5 6 7 8 9 10	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE Qualificatio QC = Comm QA = Autom Temperatur TA = -40 to	tion Powe Clocl Not c Seria Grou Intern Back Not c Clocl Clocl Mercial G otive Gr e range +85°C (S	er Suppl < Output connecte I Clock I I Data nd up tOutp up Supp connecte < Output rade (Sta ade AEC	y Voltag ed Input put Jy Volta c Enable	ge
-50 -30 -10 Part Desi #10 Backage size —	gnation #6 5 5 4 5 ate Code 0 - C2 Opti mm	30 50 Pin 1 2 3 4 5 6 7 8 9 10 0n A TA +85°C	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE Qualificatio QC = Comm QA = Autom	tion Powe Clocl Not c Seria Grou Intern Back Not c Clocl Clocl Mercial G otive Gr e range +85°C (S	er Suppl < Output connecte I Clock I I Data nd up tOutp up Supp connecte < Output rade (Sta ade AEC	y Voltag ed Input put Jy Volta c Enable	ge
-50 -30 -11 Part Desi #10 Part Desi #10 3029 , M825A1 #1 Product D Pin 1 Index RV - 3025 RTC module Product type Package size C2 = 5.0 x 3.2 x 1.2 Time accuracy Option A = ±6 ppm	gnation #6 5 5 45 ate Code 2 - C2 Opti mm • @ -40°C to • @ -40°C to • @ -40°C to	30 5 Pin 1 2 3 4 5 6 7 8 9 10 on A TA +85°C +85°C +85°C	Connec V _{DD} CLKOUT NC SCL SDA V _{SS} INT V _{BACKUP} NC CLKOE Qualificatio QC = Comr QA = Autom Temperatur TA = -40 to TB = -40 to	tion Powe Clock Not c Seria Seria Grou Interr Back Not c Clock Not c Clock ercial G iotive Gr erange +85°C (\$	er Suppl < Output connecte I Clock I I Data nd up t Output connecte < Output rade (Sta ade AEC Standard)	y Voltag ed Input put Jy Volta contact (Enable (Indard) -Q200	ge

Micro Crystal AG Muehlestrasse 14 CH-2540 Grenchen Switzerland
 Phone
 +41 32 655 82 82

 Fax
 +41 32 655 82 83

 sales@microcrystal.com

 www.microcrystal.com