

## **CLOCK OSCILLATOR**

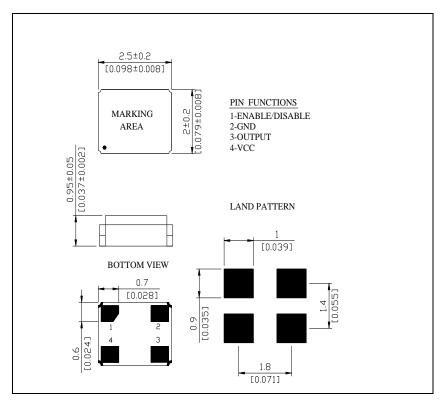
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### CO2520-0.032768-3.3-30-X-T-TR

#### ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	fo	Ta=25°C	32.768	kHz
Supply voltage range	V <sub>cc</sub>		3.3	VDC
Supply current, max	I <sub>S</sub>	Ta=25°C	240	μΑ
Operating temperature	Ta		-40 ~ <b>+</b> 85	°C
Storage temperature	T <sub>(stg)</sub>	Absolute max	-55 ~ +125	°C
Frequency Tolerance	Δf/fo	Inclusive of 25°C Tolerance and Changes due to Operating Temperature, Supply Voltage, Load, Aging, Shock and Vibration	±30	ppm
Output Voltage	Vol	Logic "0" Level	0.1 x Vcc	VDC
	Voн	Logic "1" Level	0.9 x Vcc	VDC
Output Load		CMOS Output	15	pF
/5	E/D	Pin 1: N.C. (Open) or High	Pin 3 – Oscillation (Enabled)	
Enable / Disable Function		Pin 1: Low	Pin 3 – High Impedance (Disabled)	
Symmetry (Duty Cycle)	DC	@50% Vdd	45 to 55	%
Rise Time and Fall Time, Max	tr / tf	@10% to 90% Vdd	5	ns
Stand-by Current	I(std)		10	μΑ
Start up time, Max	ts	V <sub>OUT</sub> ≥ 90% V <sub>P-P</sub>	10	ms

#### MECHANICAL SPECIFICATION





NOTE: A capacitor of 0.01  $\mu F$  between Vcc and Ground is recommended

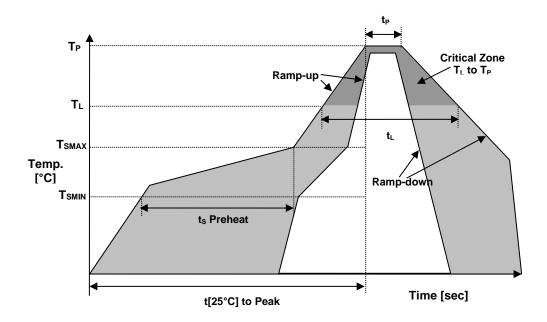


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#### REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	T <sub>SMIN</sub>	150°C
Temperature Max Preheat	T <sub>SMAX</sub>	200°C
Time (T <sub>SMIN</sub> to T <sub>SMAX</sub> )	t <sub>S</sub>	60-180 sec.
Temperature	TL	217°C
Peak Temperature	$T_P$	260°C
Ramp-up rate	R <sub>UP</sub>	3°C/sec max.
Ramp-down rate	R <sub>DOWN</sub>	6°C/sec max.
Time within 5°C of Peak Temperature	t <sub>P</sub>	10 sec.
Time t[25°C] to Peak Temperature	t[25°C] to Peak	480 sec.
Time	t <sub>L</sub>	60-150 sec.

#### ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	Compliant
REACH-SVHC	Compliant
HALOGEN-FREE	Compliant
TERMINATION FINISH	Au





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### CO2520-0.032768-3.3-30-X-T-TR

#### MARKING

Rx0.03 •25Eyw

x – Internal Production ID code

y – Year code

w - Week code

YEAR CODE		
Year	Code	
2015	5	
2016	6	
2017	7	
2018	8	
2019	9	
2020	0	
2021	1	
2022	2	
2023	3	

ALPHA WEEK CODE TABLE					
Week	Code	Week	Code	Week	Code
1	а	19	s	37	K
2	b	20	t	38	L
3	С	21	u	39	M
4	d	22	V	40	N
5	е	23	W	41	0
6	f	24	Х	42	Р
7	g	25	У	43	Q
8	h	26	Z	44	R
9	i	27	Α	45	S
10	j	28	В	46	Т
11	k	29	С	47	U
12	I	30	D	48	V
13	m	31	Е	49	W
14	n	32	F	50	X
15	О	33	G	51	Υ
16	р	34	Н	52	Z
17	q	35	I		
18	r	36	J		

#### APPROVAL

RALTRON	
DRAWN BY:	CP, April 22, 2015
APPROVED BY:	CP, April 22, 2015
REVISION:	A, Initial Release
	Updated to current spec level
	by JH 5/16/2019

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