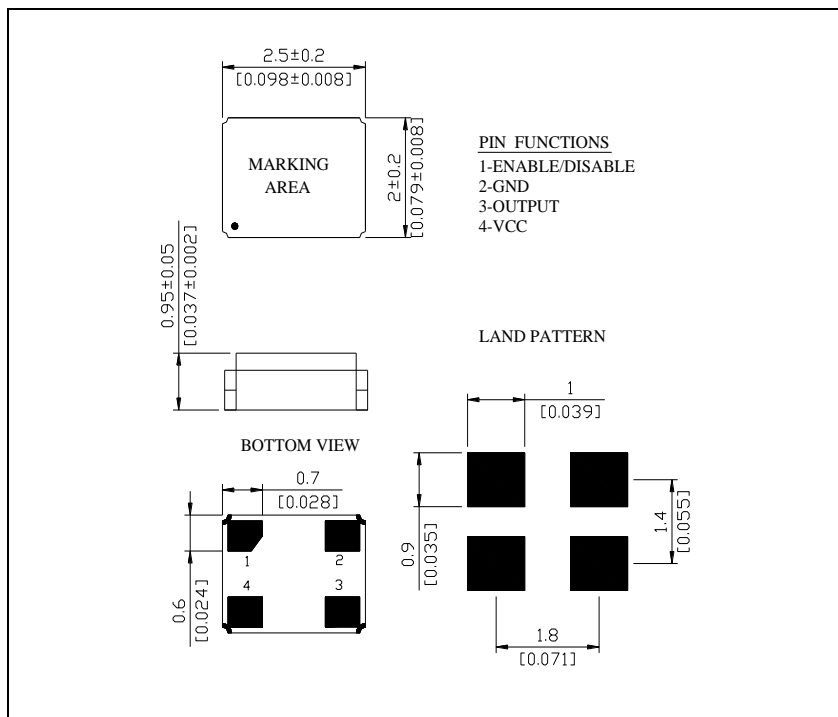


#### ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	$f_o$	$T_a=25^{\circ}\text{C}$	33.333	MHz
Supply voltage range	$V_{CC}$	---	1.8	VDC
Supply current, max	$I_s$	$T_a=25^{\circ}\text{C}$	2.5	mA
Operating temperature	$T_a$	---	-40 ~ +85	$^{\circ}\text{C}$
Storage temperature	$T_{(stg)}$	Absolute max	-40 ~ +85	$^{\circ}\text{C}$
Frequency Tolerance	$\Delta f/f_o$	Inclusive of $25^{\circ}\text{C}$ Tolerance and Changes due to Operating Temperature, Supply Voltage, Load, Aging, Shock and Vibration	$\pm 50$	ppm
Output Voltage	$V_{OL}$	Logic "0" Level	$0.1 \times V_{CC}$	VDC
	$V_{OH}$	Logic "1" Level	$0.9 \times V_{CC}$	VDC
Output Load	---	CMOS Output	15	pF
Enable / Disable Function	E/D	Pin 1: N.C. (Open) or High	Pin 3 – Oscillation (Enabled)	
		Pin 1: Low	Pin 3 – High Impedance (Disabled)	
Symmetry (Duty Cycle)	DC	@50% Vdd	45 to 55	%
Rise Time and Fall Time, Max	$t_r / t_f$	@20% to 80% Vdd	2.2	ns
Jitter TIE, max*			50	ps
Stand-by Current	$I_{(std)}$	---	10	$\mu\text{A}$
Start up time, Max	$t_s$	$V_{OUT} \geq 90\% V_{P-P}$	10	ms

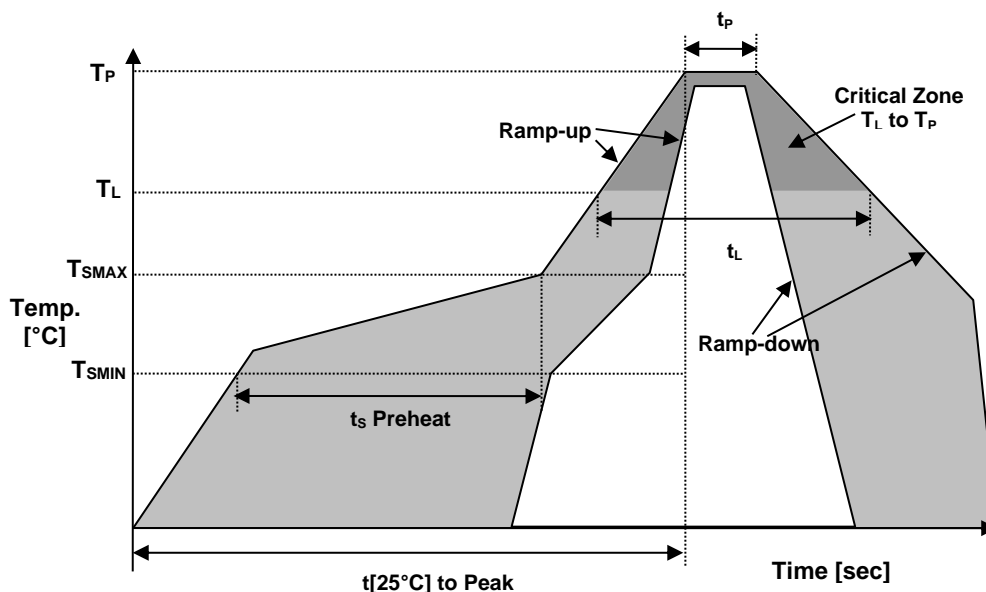
\*Note. TIE, also known as accumulated jitter is the deviation of a clock period from the ideal clock period measured over a significant number of cycles. It includes jitter contribution due to high and low jitter modulation frequencies. This specification of jitter is commonly used in SONET and Optical Transport Networking (OTN) equipment

#### MECHANICAL SPECIFICATION



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

### 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	T <sub>L</sub>	217°C
Peak Temperature	T <sub>P</sub>	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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# CLOCK OSCILLATOR

Page 3 of 3

CO2520-33.333-1.8-50-EXT-T-TR-NS2

## MARKING

Rx33.3  
•18BEyw

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	a	19	s	37	K
2	b	20	t	38	L
3	c	21	u	39	M
4	d	22	v	40	N
5	e	23	w	41	O
6	f	24	x	42	P
7	g	25	y	43	Q
8	h	26	z	44	R
9	i	27	A	45	S
10	j	28	B	46	T
11	k	29	C	47	U
12	l	30	D	48	V
13	m	31	E	49	W
14	n	32	F	50	X
15	o	33	G	51	Y
16	p	34	H	52	Z
17	q	35	I		
18	r	36	J		

## APPROVAL

RALTRON	
DRAWN BY:	CP, October 22, 2020
APPROVED BY:	JL, October 22, 2020
	A, Initial Release
REVISION:	B, AR, December 12, 2020
	Updated the Current Revision Levels

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