

### ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	fo	Ta=25°C	54.000	MHz
Supply Voltage, nom.	Vcc	Vcc ±10%	3.3	V
Supply Current, max.	Is	Ta=+25°C; Load=15 pF CMOS	30	mA
Operating Temperature Range	Ta		-40 ~ +85	°C
Storage Temperature Range	T(stg)		-55 ~ +125	°C
Frequency Stability	Δf/fo	Inclusive of 25°C Tolerance and Changes due to Operating Temperature, Supply Voltage, Load, Aging, Shock and Vibration	±50	ppm
Output Voltage Levels	V <sub>OL</sub>	Logic "0" Level,	0.5	VDC
	V <sub>OH</sub>	Logic "1" Level	4.5	
Output Load		CMOS	15	pF
Symmetry (Duty cycle)	DC	@ 50% of signal (Vdd)	45 ~ 55	%
Start-up Time, max			5	ms
Rise time / Fall time, max.	tr / tf	20%~80% Vout, 80%~20% Vout,	6	ns

### MECHANICAL SPECIFICATION

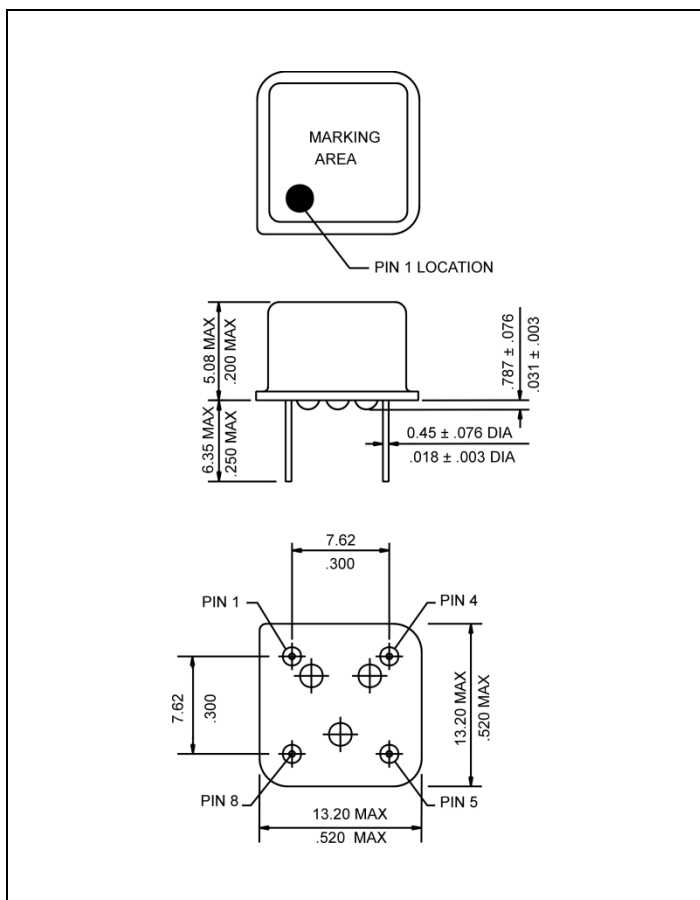
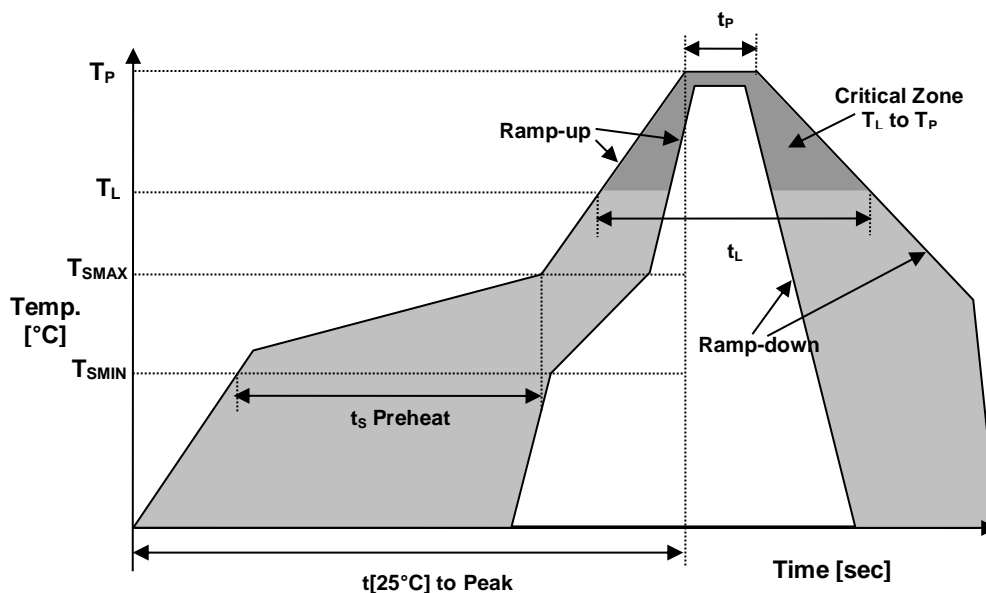


Photo is not actual part

PIN CONNECTION	
PIN	FUNCTION
1	E/D
4	GROUND
5	OUTPUT
8	Vcc

### REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	$T_{SMIN}$	150°C
Temperature Max Preheat	$T_{SMAX}$	200°C
Time ( $T_{SMIN}$ to $T_{SMAX}$ )	$t_s$	60-180 sec.
Temperature	$T_L$	217°C
Peak Temperature	$T_P$	260°C
Ramp-up rate	$R_{UP}$	3°C/sec max.
Ramp-down rate	$R_{DOWN}$	6°C/sec max.
Time within 5°C of Peak Temperature	$t_p$	10 sec.
Time $t_{[25^\circ\text{C}]}$ to Peak Temperature	$t_{[25^\circ\text{C}]}$ to Peak	480 sec.
Time	$t_L$	60-150 sec.

### ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	Compliant
REACH SVHC	Compliant
HALOGEN-FREE	Compliant
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au





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# CLOCK OSCILLATOR

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CO12050-54.000-EXT-3.3

## MARKING

CO12050  
54.000  
•Rxyyww

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
2024	4
2025	5

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:	A, Initial Release, September 30, 2013
APPROVED BY:	A, Initial Release, September 30, 2013
REVISION:	B, Updated to current spec levels by XLiu, May 7, 2020

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