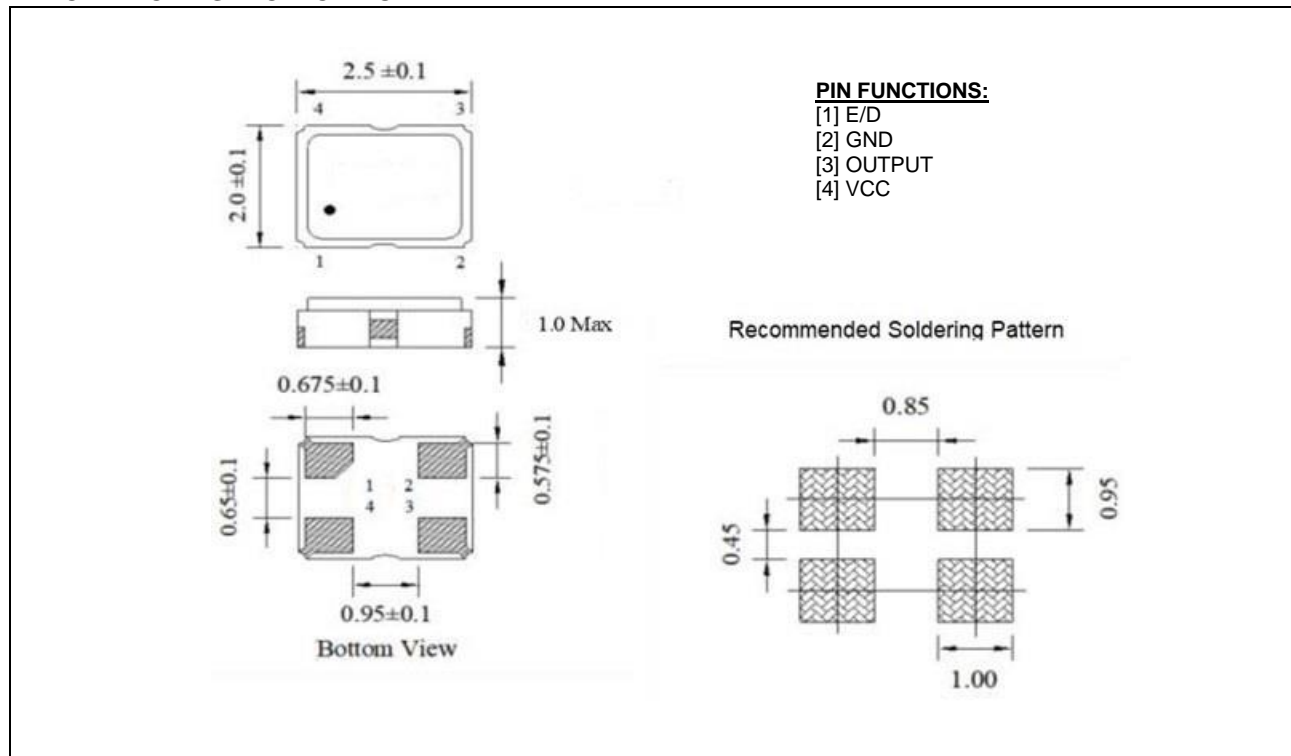


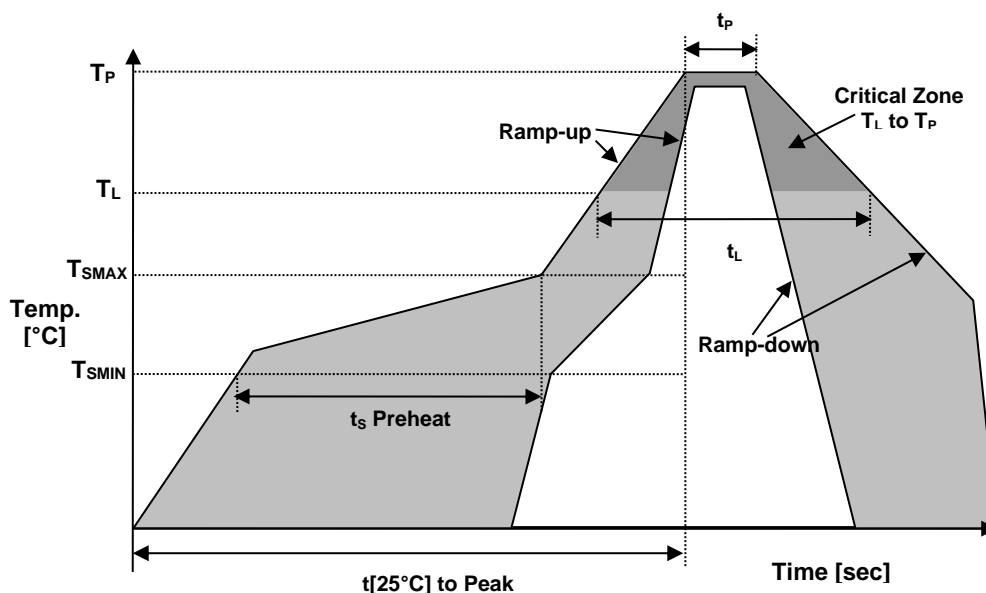
#### ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	$f_o$	$T_a = 25^\circ\text{C}$	12.000	MHz
Supply Voltage, nom.	$V_{CC}$	$V_{CC} \pm 5\%$	3.3	VDC
Supply Current, max	$I_s$	$T_a = 25^\circ\text{C}$	4.8	mA
Operating Temperature Range	$T_a$		-30 ~ +75	$^\circ\text{C}$
Storage Temperature Range	$T(\text{stg})$	Absolute max	-40 ~ +90	$^\circ\text{C}$
Frequency Stability vs. Temperature	$\Delta f/f_o(T_a)$	Reference to $+25^\circ\pm 2^\circ\text{C}$ (-30 ~ +75 $^\circ\text{C}$ )	$\pm 2.5$	ppm
Frequency Stability vs. Supply Voltage vs. Load vs. Aging max	$\Delta f/f_v$ $\Delta f/f_L$ $\Delta f/f_o(\text{year})$	$V_{CC} \pm 5\%$ Load $\pm 5\%$ Per Year at $+25^\circ\text{C} \pm 2^\circ\text{C}$	$\pm 0.3$ $\pm 0.3$ $\pm 1.0$	ppm ppm ppm
Initial Frequency Calibration, max	$f_c$	Measured at $25^\circ\text{C}$ , before shipment	$\pm 1.0$	ppm
Reflow Shift, max	$\Delta f/f_r$	2 consecutive reflows, after 2 hours relaxation	$\pm 1.0$	ppm
Output Levels, HCMOS	$V_{OH}$	"0" Level, min	$0.8 V_{CC}$	V
	$V_{OL}$	"1" Level, max	$0.2 V_{CC}$	V
Enable Voltage High, min	-	Output Enabled	$0.7 V_{CC}$	V
Enable Voltage Low, max	-	Output Disabled	$0.3 V_{CC}$	V
Load			15	pF
Start-up Time, max	$t_s$	$V_{OUT} \geq 90\% V_{P-P}$	10	ms
Rise and Fall Time, max	$t_r/t_f$	$10\% V_{CC}$ to $90\% V_{CC}$	8	ns
Symmetry	-	@ 50% $V_{CC}$ level	40 ~ 60	%

#### MECHANICAL SPECIFICATION



#### 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 $t_{[25°C]}$ to Peak Temperature	$t_{[25°C]}$ 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	Sn



#### MARKING

Rx12.00  
• EF3yw

x – Internal Production ID code  
y – Year code  
w – Week code

YEAR CODE	
Year	Code
2018	8
2019	9
2020	0
2021	1
2022	2
2023	3
2024	4
2025	5
2026	6
2027	7
2028	8
2029	9

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:	YL, May 26, 2021
APPROVED BY:	CP, May 26, 2021
REVISION:	A, Initial Release

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