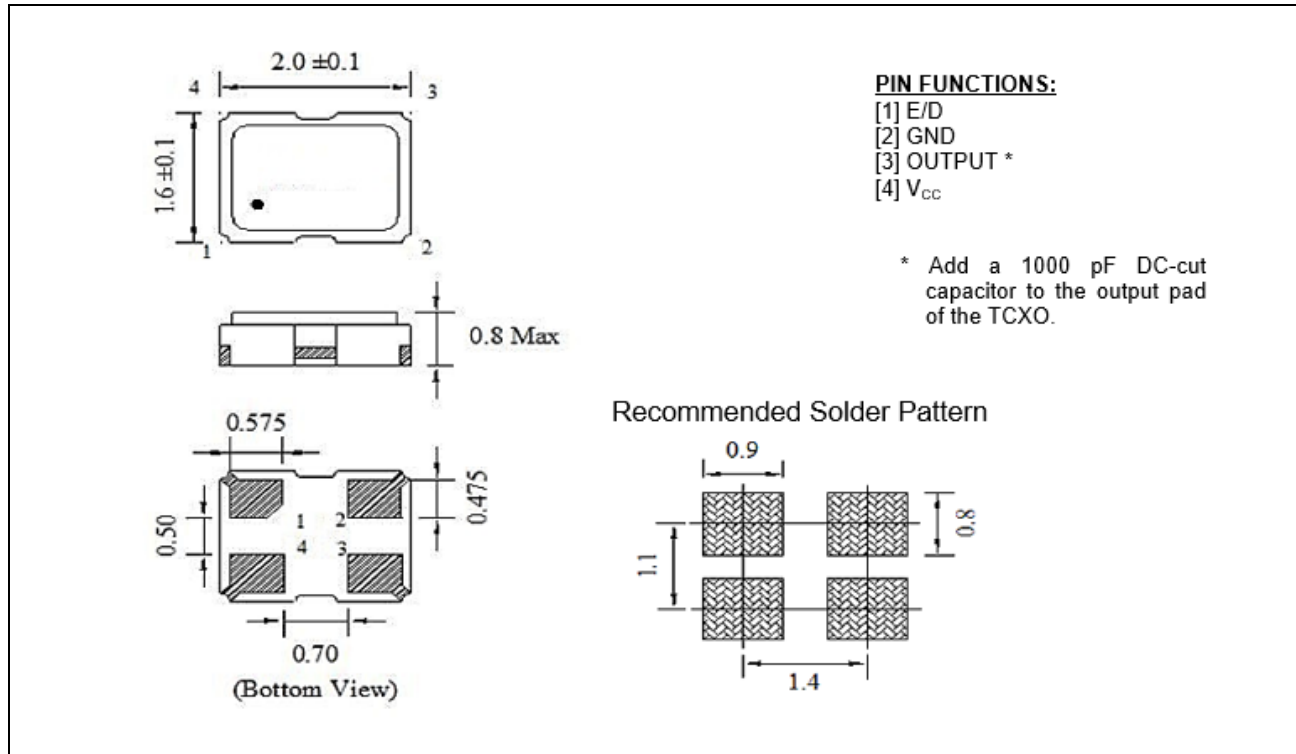


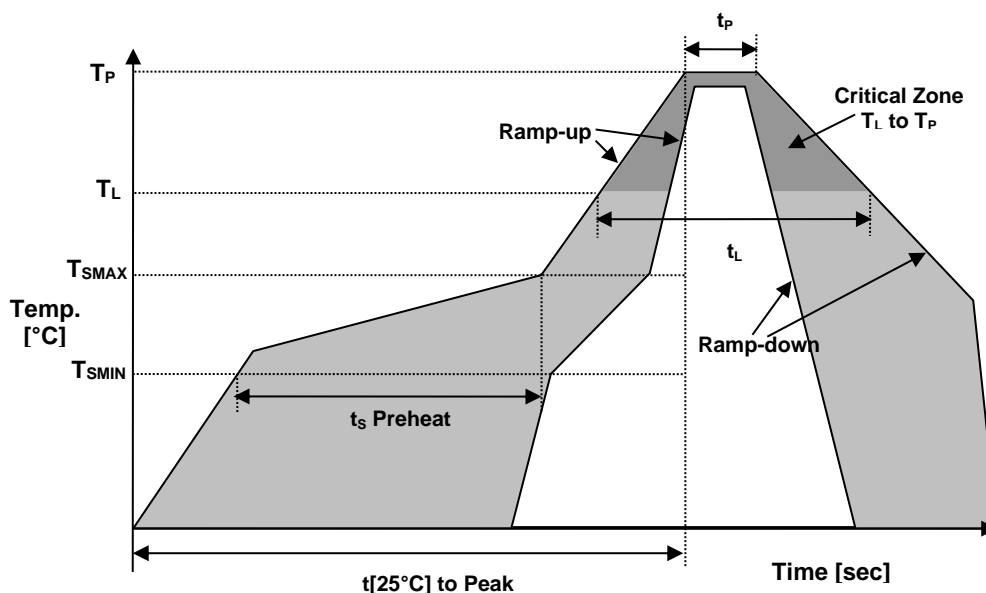
ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	f_0	$T_a = 25^\circ\text{C}$	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		-40 ~ +85	$^\circ\text{C}$
Storage Temperature Range	$T(\text{stg})$	Absolute max	-40 ~ +90	$^\circ\text{C}$
Frequency Stability vs. Temperature	$\Delta f/f_0(T_a)$	Reference to $+25^\circ\pm 2^\circ\text{C}$ (-40 ~ +85 $^\circ\text{C}$)	± 2.5	ppm
Frequency Stability vs. Supply Voltage vs. Load vs. Aging max	$\Delta f/f_v$ $\Delta f/f_L$ $\Delta f/f_0(\text{year})$	$V_{CC} \pm 5\%$ Load $\pm 5\%$ Per Year at $+25^\circ\text{C} \pm 2^\circ\text{C}$	± 0.3 ± 0.3 ± 1.0	ppm ppm ppm
Initial Frequency Calibration, max	f_c	Measured at 25°C , before shipment	± 1.0	ppm
Reflow Shift, max	$\Delta f/f_r$	2 consecutive reflows, after 2 hours relaxation	± 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 $t_{[25^{\circ}\text{C}]}$ to Peak Temperature	$t_{[25^{\circ}\text{C}] \text{ to Peak}}$	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
• ED3yw

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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