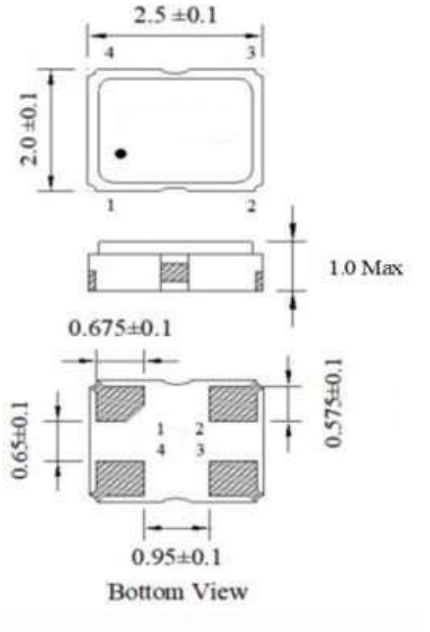
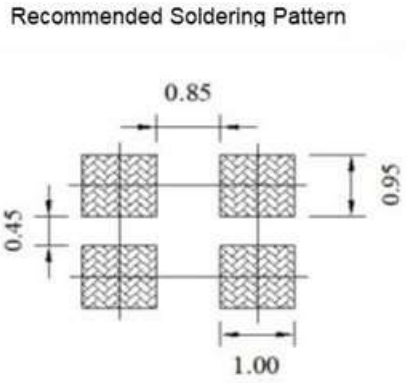
ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	fo	Ta = 25°C	24.000	MHz
Supply Voltage, nom.	V_{CC}	Vcc ±5%	3.3	VDC
Supply Current, max	I_S	Ta = 25°C	4.8	mA
Operating Temperature Range	Ta		-40 ~ +85	°C
Storage Temperature Range	T(stg)	Absolute max	-40 ~ +90	°C
Frequency Stability vs. Temperature	Δf/fo(Ta)	Reference to +25°±2°C (-40 ~ +85°C)	±2.5	ppm
Frequency Stability vs. Supply Voltage vs. Load vs. Aging max	 $\Delta f/f_V$ $\Delta f/f_L$ Δf/fo(year)	 Vcc ±5% Load ±5% Per Year at +25°C ± 2°C	 ±0.3 ±0.3 ±1.0	 ppm ppm ppm
Initial Frequency Calibration, max	fc	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} ≥ 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	%

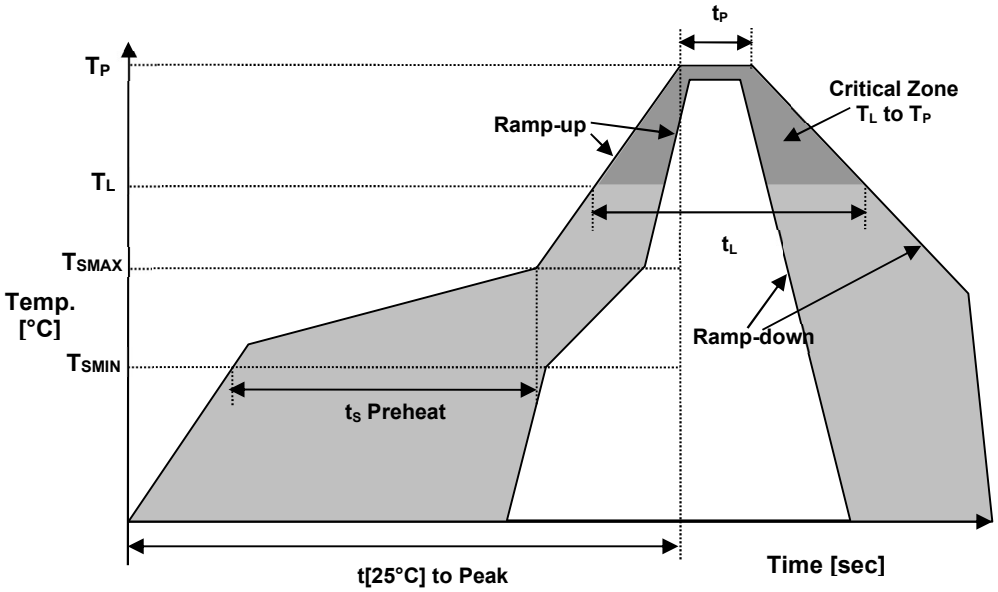
MECHANICAL SPECIFICATION



PIN FUNCTIONS:
[1] E/D
[2] GND
[3] OUTPUT
[4] 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°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

Rx24.00
• 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:	KJ, October 6, 2023
APPROVED BY:	JI, October 6, 2023
REVISION:	A, Initial Release