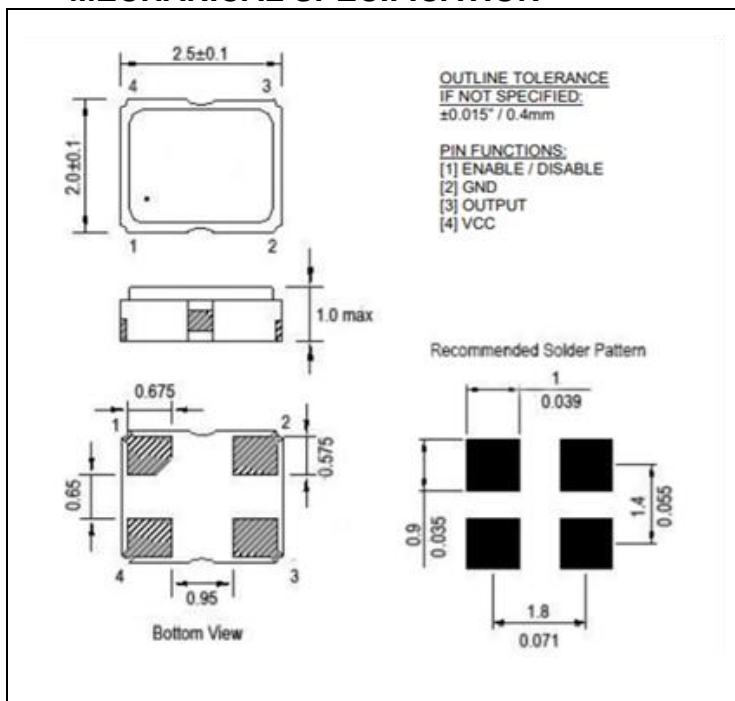


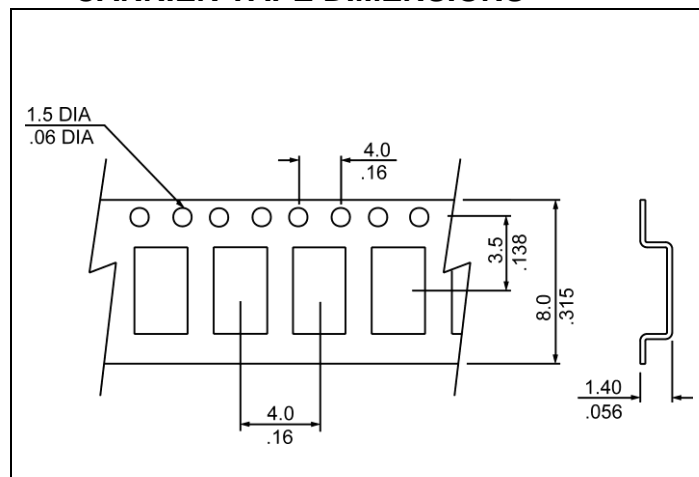
ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	f_o	$T_a=25^{\circ}\text{C}$	24.000	MHz
Supply Voltage Range	V_{CC}	$V_{CC} \pm 10\%$	3.3	VDC
Supply Current, max	I_s	$T_a=25^{\circ}\text{C}$	4.5	mA
Operating Temperature	T_a		-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature	$T_{(stg)}$	Absolute max	-55 ~ +125	$^{\circ}\text{C}$
Frequency Stability, max	$\Delta f/f_o$	Inclusive of 25°C Tolerance and Changes due to Operating Temperature, Supply Voltage, Load and first year aging	± 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: High, Pin 3 – Oscillation (Enabled)	$0.7 \times V_{CC} \text{ min}$	V
		Pin 1: Low, Pin 3 – High Impedance (Disabled)	$0.3 \times V_{CC} \text{ max}$	V
Symmetry (Duty Cycle)	DC	@50% Vdd	45 ~ 55	%
Rise Time and Fall Time, max	t_r / t_f	@10% to 90% Vdd	10	ns
Stand-by Current	$I_{(std)}$		10	μA
Start-up time, max	t_s	$V_{OUT} \geq 90\% V_{P-P}$	10	ms

MECHANICAL SPECIFICATION



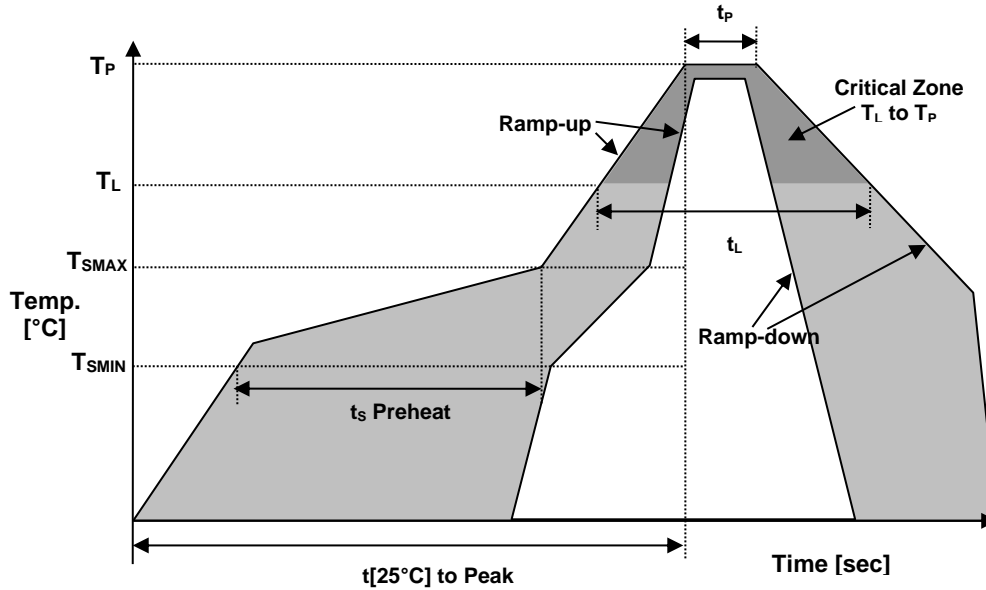
CARRIER TAPE DIMENSIONS



PACKAGING

178 mm REEL DIAMETER
8 mm TAPE WIDTH, 4 mm PITCH
QUANTITY: 3000 PIECES PER REEL

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
TERMINATION FINISH	Au



MARKING

Rx24.00

•33BEyw

x – 1 or 2 digits as 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:	KJackson, January 22, 2015
APPROVED BY:	KJackson, January 22, 2015
REVISION:	A, Initial Release B, Updated to current spec levels KJ 9/8/21 C, Updated to current spec levels by XLiu, June 17, 2022 D, Add carrier tape dimensions by XLiu, June 23, 2022

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