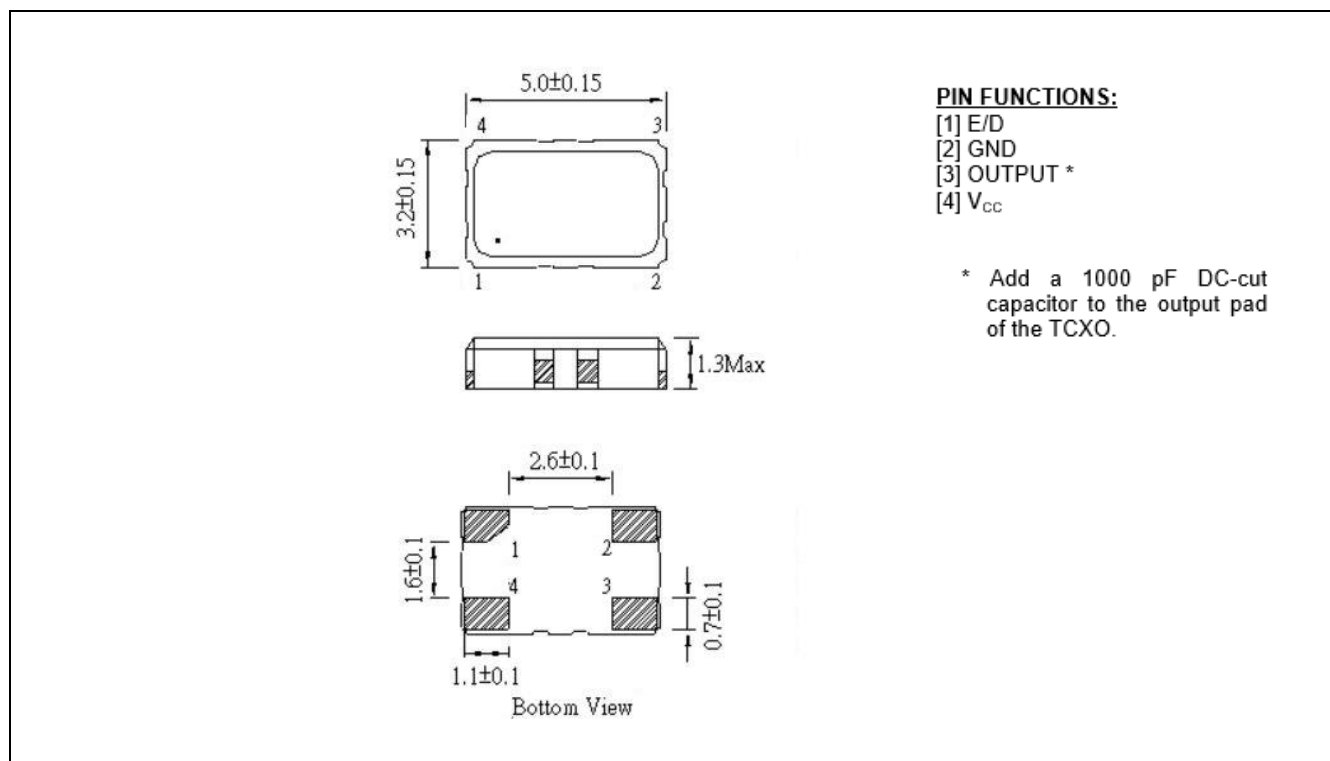


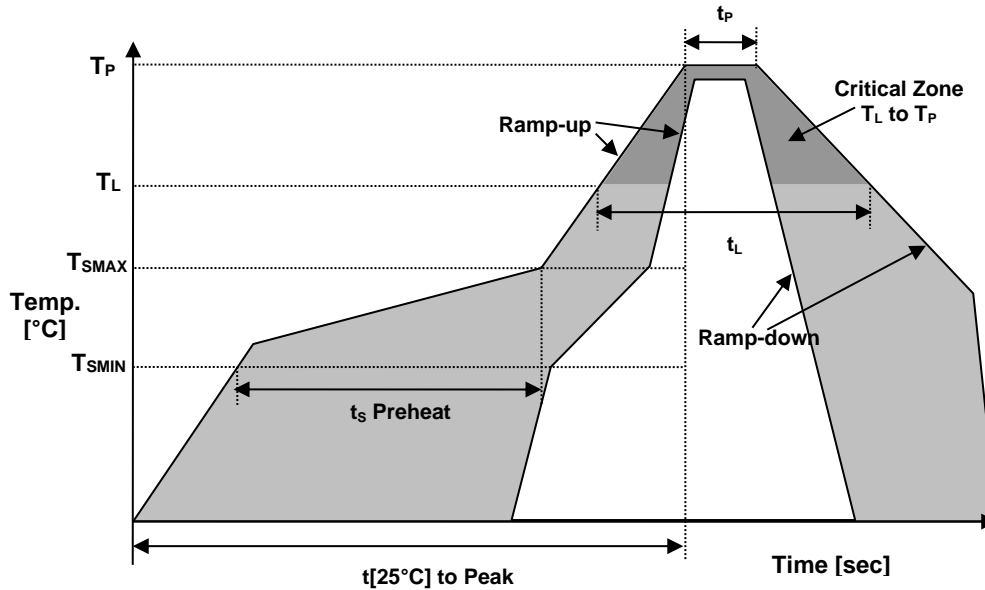
ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	f_o	$V_{CC} \pm 5\%$	16.000	MHz
Supply Voltage, nom.	V_{CC}	$V_{CC} \pm 5\%$	3.3	VDC
Supply Current, max	I_s	$V_{CC} \pm 5\%$	7	mA
Operating Temperature Range	T_a		-40 ~ +85	°C
Storage Temperature Range	$T(stg)$	Absolute max	-55 ~ +125	°C
Frequency Stability				
vs. Temperature	$\Delta f/f_o(T_a)$	Reference to +25°C, over Temperature Range	±2.5	ppm
vs. Supply Voltage	$\Delta f/f_v$	$V_{CC} \pm 5\%$	±0.2	ppm
vs. Load	$\Delta f/f_L$	Load ±10%	±0.2	ppm
vs. Aging Max	$\Delta f/f_o(year)$	Per Year at +25°C ± 2°C	±1.0	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 24 hours relaxation	±1.0	ppm
Output Level, CMOS	V_{OH}	"0" level, max	0.2 V_{CC}	V
	V_{OL}	"1" Level, min	0.8 V_{CC}	V
Load	L		15	pF
Rise and Fall Time, max	t_r/t_f	10% V_{CC} to 90% V_{CC}	5	ns
Start-up time, max	t_s	$V_{OUT} \geq 90\% V_{P-P}$	10	ms
Symmetry	-		45 ~ 55	%
Phase Noise	$\mathcal{E}(\Delta f)$	@10 kHz	-145	dBc/Hz

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 $t_{[25^\circ\text{C}] \text{ to Peak Temperature}}$	$t_{[25^\circ\text{C}] \text{ to Peak}}$	480 sec.
Time	t_L	60-150 sec.

ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
REACH	Compliant
RoHS	Compliant
TERMINATION FINISH	Au



• MARKING

Rx50.00
•ED33yw

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

YEAR CODE	
Year	Code
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		

■ APPROVALS

RALTRON	
Created by, date:	AR, June 01, 2021
Eng. approval, date:	CP, June 01, 2021
Revision:	A

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