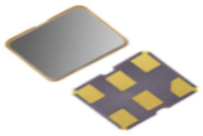
LVDS FUNDAMENTAL SURFACE MOUNT CLOCK OSCILLATOR

CLF2520-312.500-3.3-50-X-T-N1

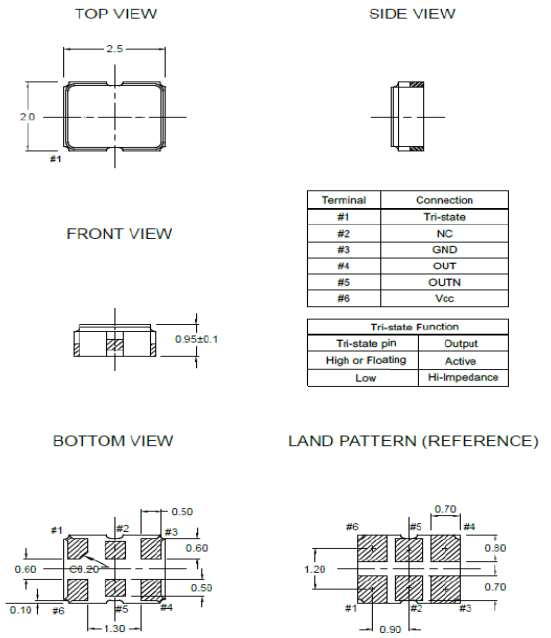


ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	fo	Ta=25°C	312.500	MHz
Oscillation Mode			Fundamental	
Supply Voltage	V_{CC}	Vcc ±10%	3.3	VDC
Current Consumption, typ/max	I_{cc}		15/30	mA
Operating Temperature Range	Ta	---	-40 ~ +85	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55 ~ +125	°C
Output Logic Type	---		LVDS	
Freq. Stability, max	Δf/fo	Inclusive of 25°C Tolerance and Changes due to Operating Temperature, Supply Voltage, Load, Aging	±50	ppm
Output Voltage	V_{OL}	Logic "0" Level, min	0.90	VDC
	V_{OH}	Logic "1" Level, max	1.60	VDC
Output Load	---	Out-OutN	100	Ω
Enable / Disable Function	E/D	Pin 1: High, Pins 4 & 5 – Oscillation (Enabled), min	0.7 x Vcc	V
		Pin 1: Low, Pins 4 & 5 – High Impedance (Disabled), max	0.3 x Vcc	V
Symmetry (Duty Cycle)	DC	@50% Wave Form	45 ~ 55	%
Offset Voltage, min/typ/max	V_{os}		1.125/1.250/1.375	V
Differential Output Swing, min	V_{opp}		0.25	V
Stand By Current, typ/max	I_{stand}		100/300	µA
Rise Time and Fall Time, max	tr / tf	@20% to 80% Wave Form	0.4	ns
Start up Time, max	t_{start}		2	ms
Phase Jitter, typ	J	1σ, 12kHz < F_j < 20MHz	48.7	fs
Phase Noise, typ	£ (Δf)	@10Hz	-42.51	dBc/Hz
		@100Hz	-76.18	
		@1kHz	-108.15	
		@10kHz	-137.45	
		@100kHz	-147.06	
		@1MHz	-153.27	
		@10MHz	-157.68	
		@100MHz	-160.75	

CLF2520-312.500-3.3-50-X-T-N1

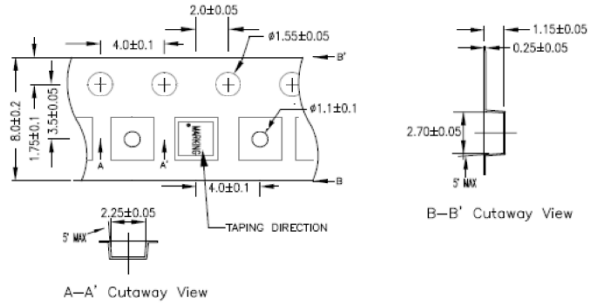
MECHANICAL SPECIFICATION



Terminal	Connection
#1	Tri-state
#2	NC
#3	GND
#4	OUT
#5	OUTN
#6	Vcc

Tri-state Function	
Tri-state pin	Output
High or Floating	Active
Low	Hi-Impedance

CARRIER TAPE DIMENSIONS

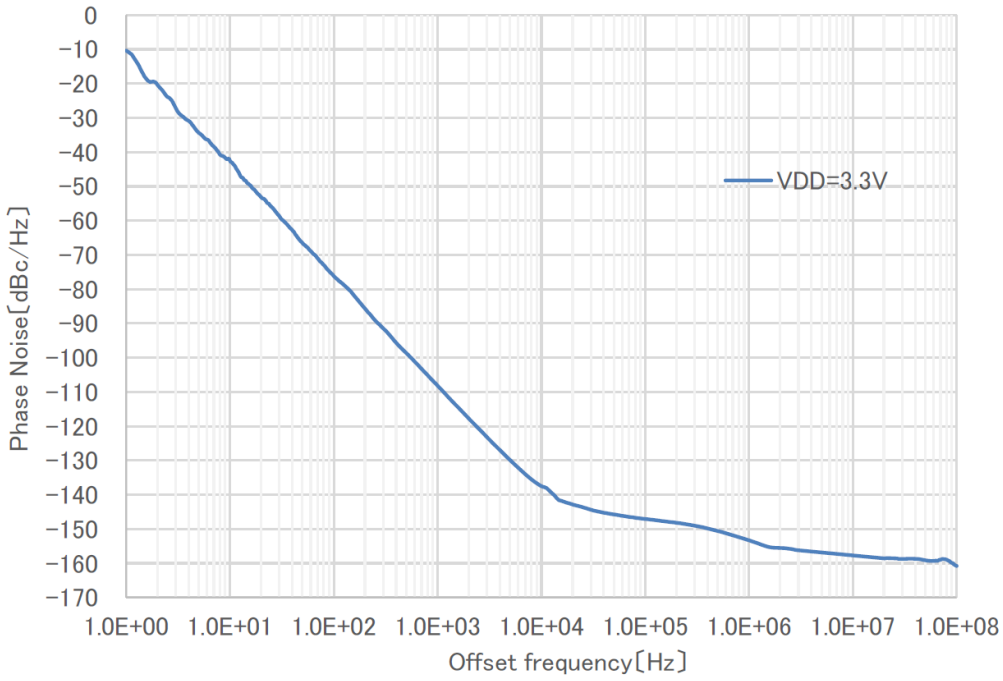


NOTE: REFER TO EIA-481 FOR DIMENSIONS NOT LISTED

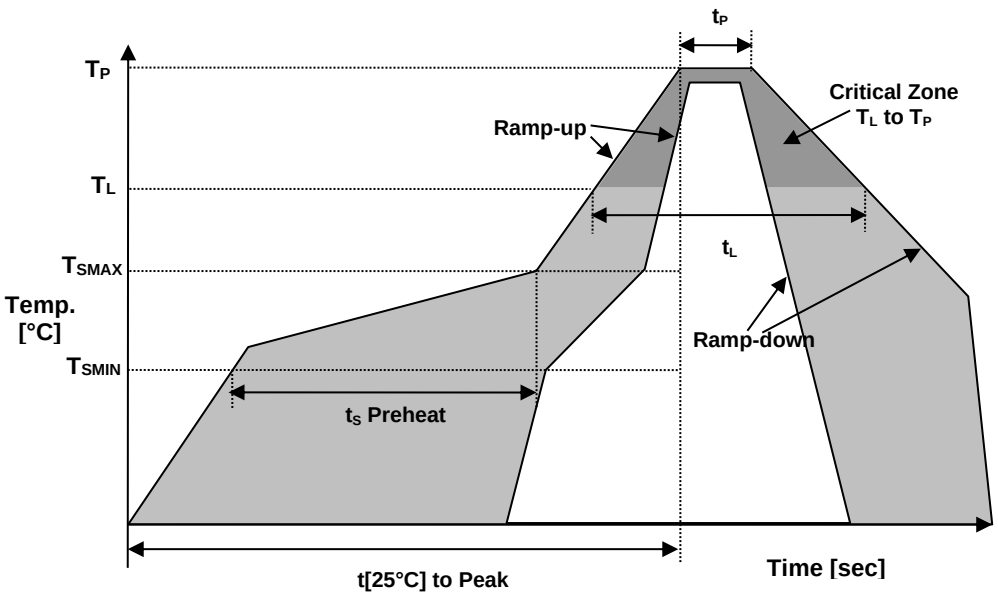
PACKAGING

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

PHASE NOISE GRAPH TYPICAL



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
TERMINATION FINISH	Au

MARKING

Rxx312
•3BEyw

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

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		
18	r	36	J		

APPROVAL

RALTRON	
DRAWN BY:	JS, February 13, 2025
APPROVED BY:	LS, February 13, 2025
REVISION:	A, Initial Release