

LVDS CLOCK OSCILLATOR

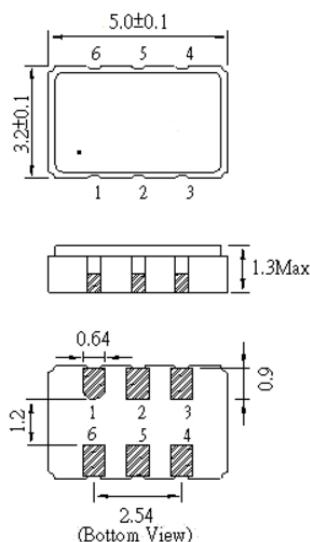
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CL5032-100.000-3.3-25-X-T-TR

ELECTRICAL SPECIFICATION

PARAMETER	SYMBOL		VALUE	UNIT
Nominal Frequency	f_o	$T_a=25^{\circ}\text{C}$	100.000	MHz
Supply Voltage	V_{CC}	$V_{CC} \pm 5\%$	3.3	VDC
Supply Current, max	I_S	$T_a=+25^{\circ}\text{C}$	60	mA
Operating Temperature Range	T_a		-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature	$T_{(stg)}$	Absolute max	-55 ~ +125	$^{\circ}\text{C}$
Output Logic Type			LVDS	
Overall Freq. Stability, max	$\Delta f/f_o$	Inclusive of 25°C Tolerance and Changes due to Operating Temperature	± 25	ppm
Differential Output Voltage, min/max	V_{OD}		247 / 454	mV
VOD Magnitude Change, max	ΔV_{OD}		50	mV
Offset Voltage, min/max	V_{OS}		1.125 / 1.375	V
VOS Magnitude Change, max	ΔV_{OS}		50	mV
Output Load		Connected between Out and Complementary Out	100	Ω
Enable / Disable Function	E/D	Pin 1: N.C. (Open) or High ($0.7 \times V_{CC}$) Pin 1: Low ($0.3 \times V_{CC}$)	Pin 4 & 5 – Oscillation (Enabled) Pin 4 & 5 – High Impedance (Disabled)	
Symmetry (Duty Cycle)	DC	@ 50% Waveform	45 ~ 55	%
Start-up Time, max	t_s	$V_{OUT} \geq 90\% V_{P-P}$	10	ms
Rise Time and Fall Time, max	t_r / t_f	@ 20% to 80% Waveform	1	ns
RMS Phase Jitter, max		Offset frequency: $12\text{kHz} < F_j < 20\text{MHz}$	1	ps

MECHANICAL SPECIFICATION

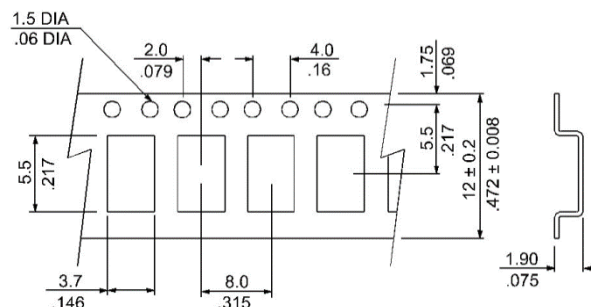


Pin Connections

- 1 – Enable / Disable
- 2 – NC
- 3 – Ground
- 4 – Output
- 5 – Complimentary Output
- 6 – Vcc

NOTE: A capacitor of 0.01 μF between Vcc and Ground is recommended

CARRIER TAPE DIMENSIONS

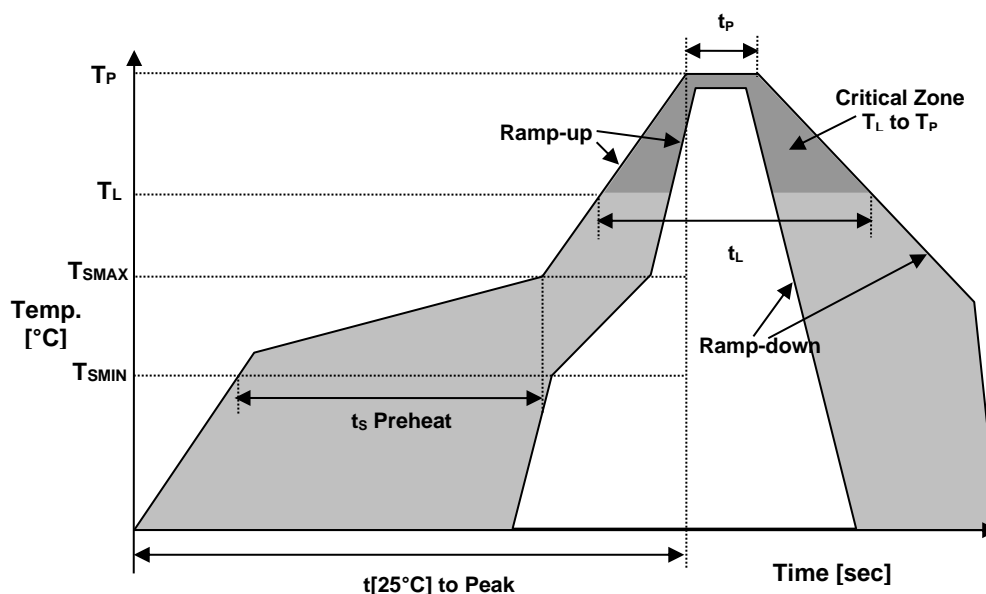


NOTE: REFER TO EIA-481 FOR DIMENSIONS NOT LISTED

PACKAGING

178 mm REEL DIAMETER
12 mm TAPE WIDTH, 8 mm PITCH
QUANTITY: 1000 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	$t_{[25^\circ\text{C}]}$ 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

Rx100.0T

•3AEyw

x – 1 or 2 digits 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:	AR, January 18, 2019
APPROVED BY:	CP, January 18, 2019
REVISION:	A, Initial Release B, Updated to current spec levels by XLiu, October 17, 2022 C, Updated to current spec levels by AR, April 11, 2024

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