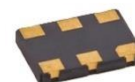


LVDS CLOCK OSCILLATOR

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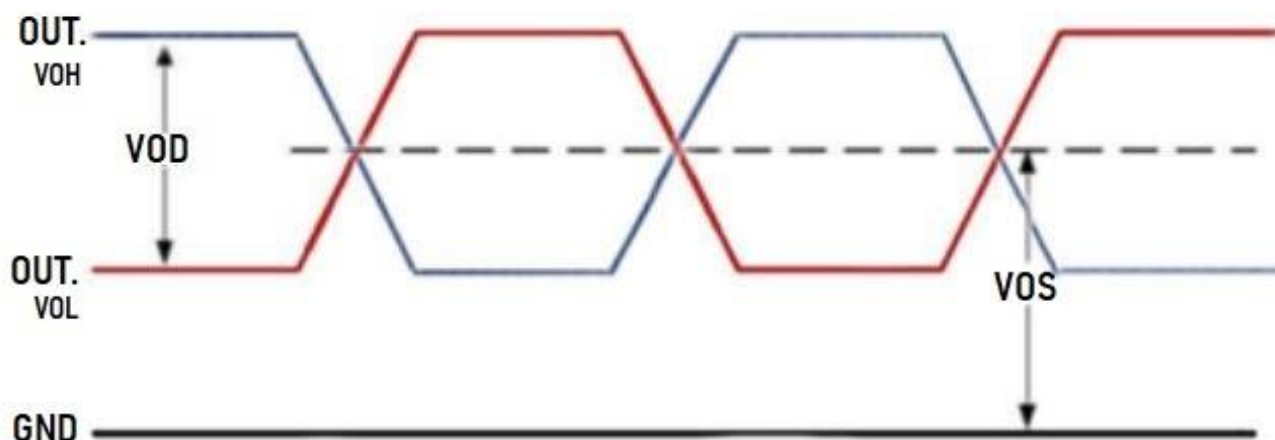
CL2520-156.250-L-20-X-T-TR-NS1

ELECTRICAL SPECIFICATION



PARAMETERS	SYMBOL	CONDITIONS	VALUE	UNIT
Nominal Frequency	f_o	$T_a=25^{\circ}\text{C}$	156.250	MHz
Supply Voltage	V_{CC}		2.375 ~ 3.63	VDC
Supply Current, max	I_s	$T_a=25^{\circ}\text{C}$	40	mA
Operating Temperature Range	T_a		-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55 ~ +125	$^{\circ}\text{C}$
Output Logic Type			LVDS	
Overall Freq. Stability, max.	$\Delta f/f_o$	Inclusive of 25°C Tolerance, Changes due to Operating Temperature, 10 years Aging	± 20 ⇄	ppm
Output Voltage	V_{OH}	V_{OH} , max, $R_L=100\ \Omega$, $C_E \geq V_{CC}-0.3V$, OUT/OUTN	1.6	VDC
	V_{OL}	V_{OL} , min, $R_L=100\ \Omega$, $C_E \geq V_{CC}-0.3V$, OUT/OUTN	0.9	VDC
Differential Voltage, min/max	$V_{OD}/V_{OD'}$	$R_L=100\ \Omega$, $C_E \geq V_{CC}-0.3V$, OUT/OUTN	247 / 454	mV
Differential Voltage Deviation, max	ΔV_{OD}		50	mV
Offset Voltage, min/max	V_{OS}	$R_L=100\ \Omega$, $C_E \geq V_{CC}-0.3V$, OUT/OUTN	1.125 / 1.375	V
Offset Deviation, max	ΔV_{OS}		50	mV
Output Swing, min	V_{opp}		0.25	V
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 4 & 5 – Oscillation (Enabled)	
		Pin 1: Low ($0.3 \times V_{CC}$)	Pin 4 & 5 – High Impedance (Disabled)	
Symmetry (Duty Cycle)	DC	@50% Wave form	45 ~ 55	%
Rise Time and Fall Time, max	t_r / t_f		400	ps
Jitter, RMS, typ/max	J	@12kHz ~ 20MHz	80 / 100	fs

WAVEFORM DIAGRAM



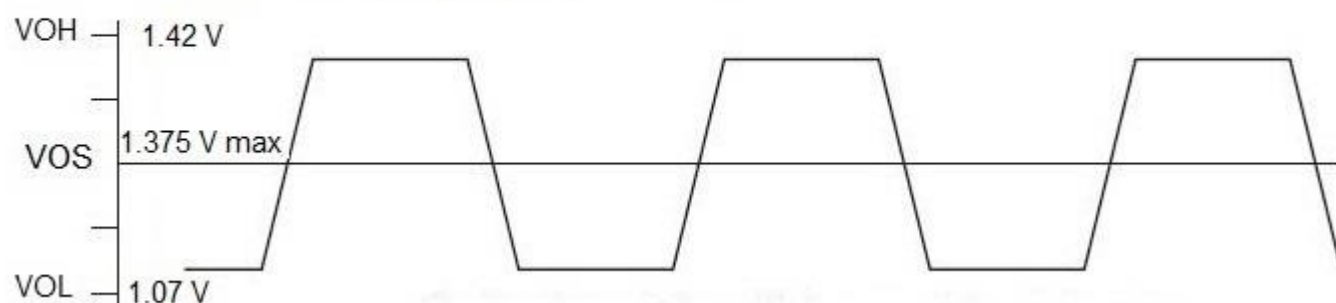
LVDS CLOCK OSCILLATOR

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CL2520-156.250-L-20-X-T-TR-NS1

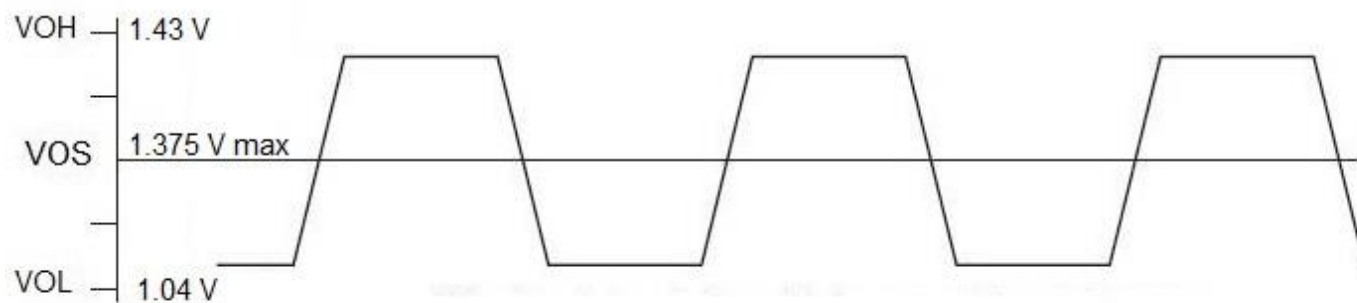
2.5V

LVDS TYPICAL OUTPUT LEVEL



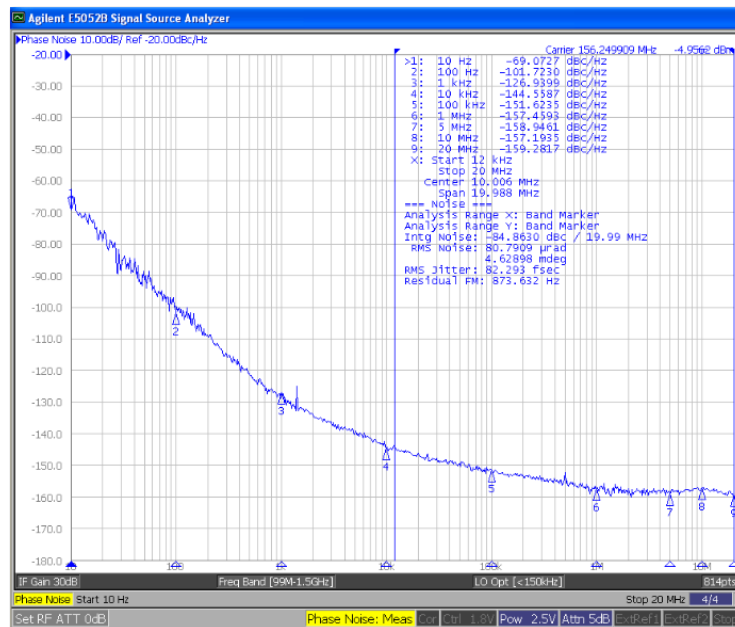
3.3V

LVDS TYPICAL OUTPUT LEVEL

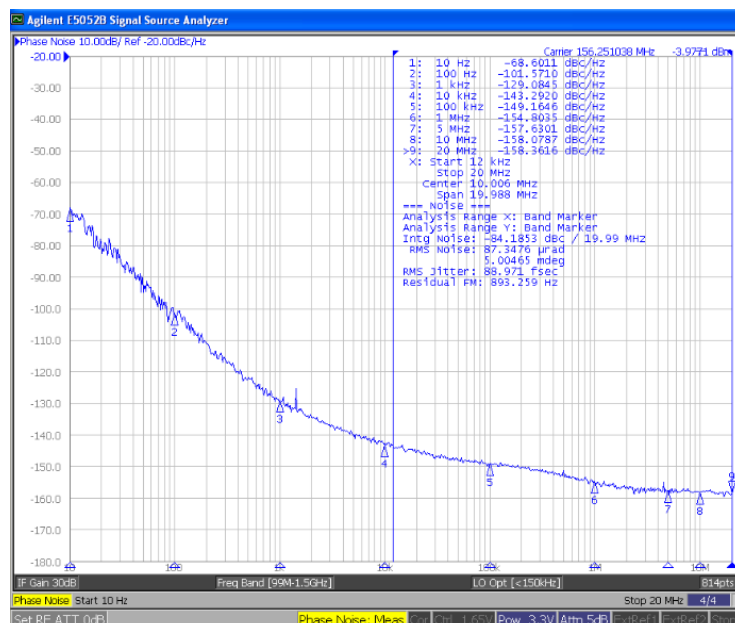


■ PHASE NOISE

At 2.5V



At 3.3V

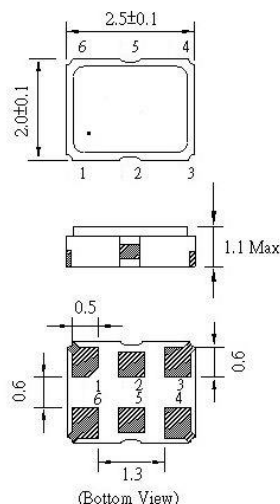


LVDS CLOCK OSCILLATOR

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CL2520-156.250-L-20-X-T-TR-NS1

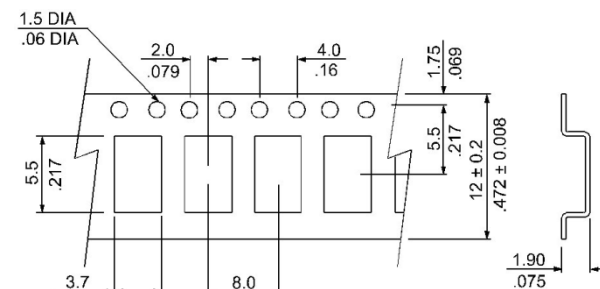
MECHANICAL SPECIFICATION



Pin Connections

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

CARRIER TAPE DIMENSIONS

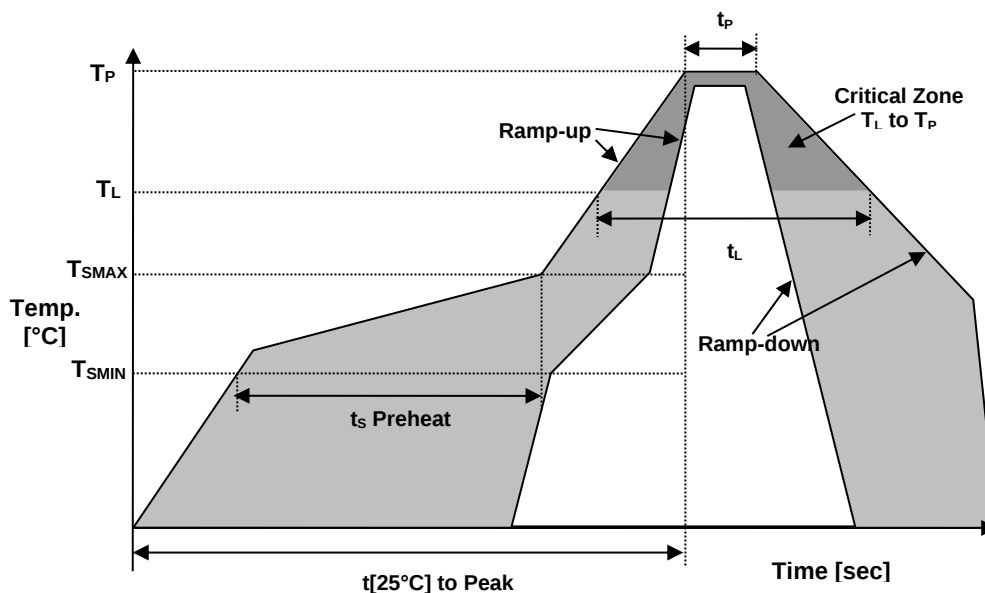


NOTE: REFER TO EIA-481 FOR DIMENSIONS NOT LISTED

PACKAGING

- 178 mm REEL DIAMETER
- 12 mm TAPE WIDTH, 8 mm PITCH
- QUANTITY: 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°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

Rx156.25

•LDEyw

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:	CP, December 04, 2019
APPROVED BY:	Jl, December 04, 2019
REVISION:	A, Initial Release B CP, April 17, 2020, Updated the Current Revision Levels C, AR, August 28, 2020, Updated Waveform Diagram D, Tape/reel quantity revised to 3K pieces 7/12/22 KJ E, Updated to current spec levels by XLiu, October 21, 2022

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