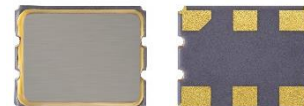


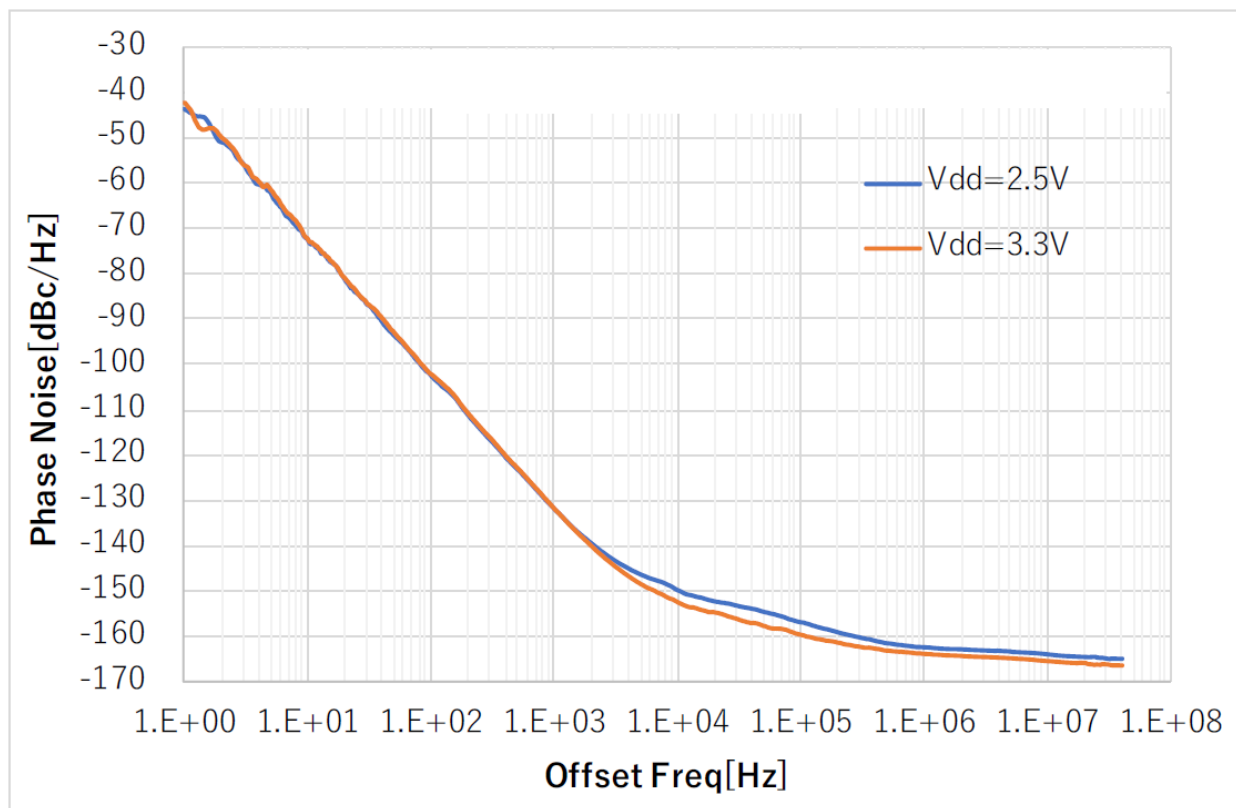
ELECTRICAL SPECIFICATION



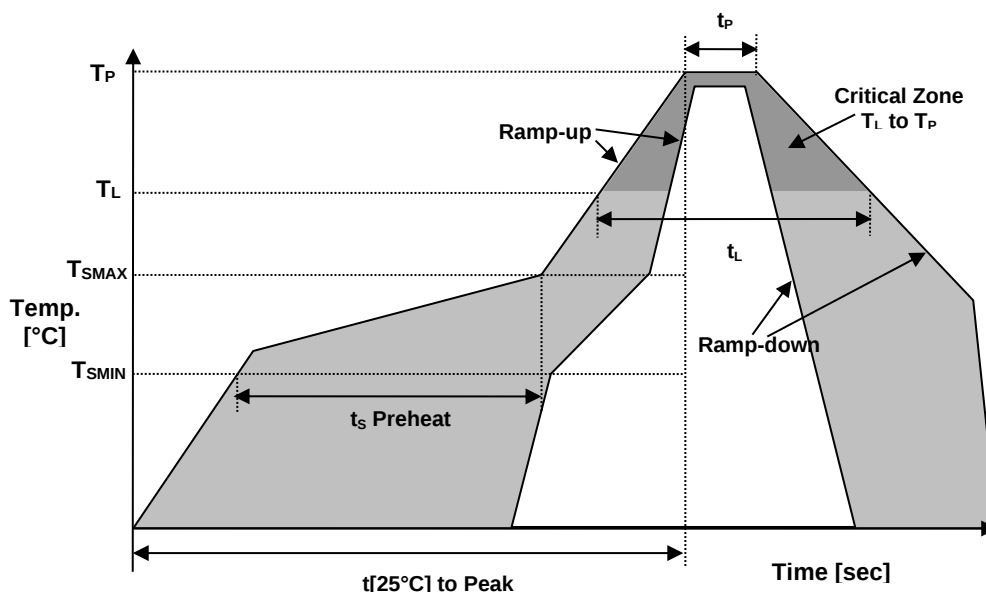
PARAMETER	SYMBOL	CONDITIONS	VALUE		UNIT
Nominal Frequency	f_o	$T_a = 25^\circ\text{C}$	156.250		MHz
Oscillation Mode			Fundamental		-
Supply Voltage Range	V_{CC}	$V_{CC} \pm 5\%$	2.5 ~ 3.3		VDC
Supply Current, max	I_s	V_{CC} ; $T_a = +25^\circ\text{C}$	20		mA
Operating Temperature Range	T_a	---	-40 ~ +85		$^\circ\text{C}$
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55 ~ +125		$^\circ\text{C}$
Output Logic Type	---		LVDS		
Freq. Stability, max	$\Delta f/f_o$	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	0.9		VDC
	V_{OH}	Logic "1" Level, max	1.6		VDC
Output Load	---	Connected between Out and Complementary Out	100		Ω
Enable / Disable Function	E/D	Pin 1: High, Pins 4 & 5 – Oscillation (Enabled), min	$0.7 \times V_{CC}$		V
		Pin 1: Low, Pins 4 & 5 – High Impedance (Disabled), max	$0.3 \times V_{CC}$		V
Symmetry (Duty Cycle)	DC	@50% Vdd	45 ~ 55		%
Offset Voltage, min/typ/max	V_{OS}		1.125/1.25/1.375		V
Differential Output Swing, min	V_{OPP}		0.4		V
Rise Time and Fall Time	t_r / t_f	@20% to 80% Vdd	0.4		ns
Standby Current, max	I_{st}		10		μA
Start Up Time, max			2		ms
Jitter, RMS, max	J	1σ , $12\text{kHz} < F_J < 20\text{MHz}$	50		fs
Phase Noise, typ	$\mathcal{E} (\Delta f)$		2.5V	3.3V	dBc/Hz
		@ 10Hz	-75.40	-73.74	
		@ 100Hz	-105.60	-104.71	
		@ 1kHz	-134.60	-133.87	
		@ 10kHz	-150.75	-149.44	
		@ 100kHz	-157.38	-153.29	
		@ 1MHz	-161.58	-162.25	
		@ 40MHz	-164.00	-167.62	

■ EXAMPLE OF PHASE NOISE

VDD=2.5V and 3.3V 156.25MHz



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

Rxx156

•JBeyw

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		

APPROVAL

RALTRON	
DRAWN BY:	JS, February 14, 2025
APPROVED BY:	CP, February 14, 2025
REVISION:	A, Initial Release

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