

OX4170D-D3-1-12.800-3.3



### ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	$f_0$		12.800			MHz
Supply Voltage	$V_s$	$V_s \pm 5\%$ @ 25°C	3.135	3.3	3.465	V
Input Current	$I_s$	Steady state, @ 25°C			150	mA
	$I_{s,w}$	During warm-up, @ 25°C			450	mA
Warm-up Time	$t_w$	$V_s$ , $T_a = +25^\circ\text{C}$ , within $\pm 100\text{ppb}$ of final frequency with reference after 1 hours on			30	s
Frequency Calibration	$\Delta f/f_0$	$T_a = +25^\circ\text{C}$ , 15mins power on ref to nominal frequency before reflow.	-500		+500	ppb
Frequency Stability vs. Temperature	$\Delta f/f_0 (T_a)$	$T_a = -40^\circ\text{C} \dots +85^\circ\text{C}$ , refer to $(F_{\text{max}} + F_{\text{min}})/2$	-10		+10	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_0 (\Delta V_{CC})$	$T_a = 25^\circ\text{C}$ , $V_s \pm 5\%$ , load=15pF	-5		+5	ppb
Frequency Stability vs. Load Change	$\Delta f/f_0 (\Delta I)$	Load change max.: 5%	-3		+3	ppb
Short Term Stability		Still air, $T_a = +25^\circ\text{C}$ , after power on 1 hour, Allan variance, $\tau = 1\text{s}$			0.05	ppb/s
Aging, after 30 Days of Operation	$\Delta f/\Delta t_d$	Daily	-2.0		+2.0	ppb
	$\Delta f/\Delta t_y$	First year	-300		+300	ppb
	$\Delta f/\Delta t_y$	10 years	-1.5		+1.5	ppm
Operating Temperature Range	$T_a$		-40		+85	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55		+105	°C

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**LVC MOS OUTPUT CHARACTERISTICS**

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOL	V <sub>s</sub> = 3.3V, load = 15pF			0.4	V
	VOH	V <sub>s</sub> = 3.3V, load = 15pF	2.4	2.8		
Duty Cycle	DC	load = 15pF	45		55	%
Rise/Fall Time	t <sub>r</sub> /t <sub>f</sub>	10% ~ 90% V <sub>out</sub>			5	ns
Load				15		pF

**PHASE NOISE**

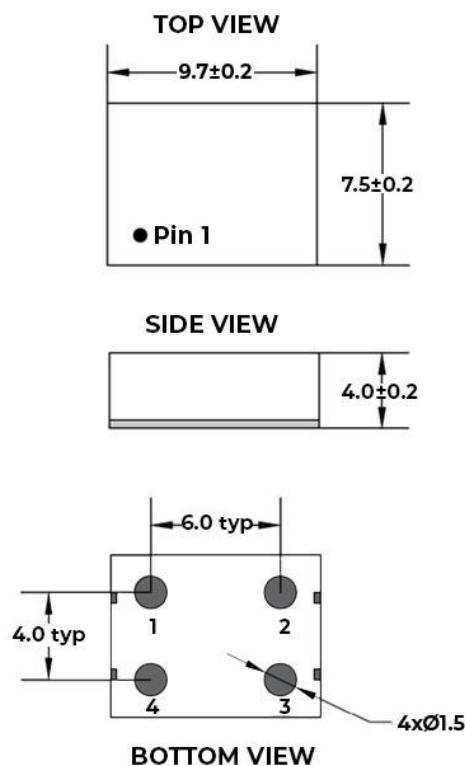
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ. / Nom.	Max.	
@1 Hz Offset	£ (Δf)				-75	dBc/Hz
@10 Hz Offset	£ (Δf)				-105	dBc/Hz
@100 Hz Offset	£ (Δf)				-135	dBc/Hz
@1 kHz Offset	£ (Δf)				-145	dBc/Hz
@10 kHz Offset	£ (Δf)				-150	dBc/Hz
@100 kHz Offset	£ (Δf)				-150	dBc/Hz

**ENVIROMENTAL CHARACTERISTICS**

Storage Temperature Range	-55°C to +105°C
Drop Test	The test shall be carried out as the provisions of the IEC60028-2-32 test Ed. 10cm height, 3 times on hard board with thickness of 3cm
Vibration Test	Frequency range:10Hz~500Hz Acceleration:10g Displacement:0.75mm@10Hz Sweep time:1.5 hours total(sweep for 30 minutes in each direction)
Mechanical Shock	50g, 11mS duration, 1/2 sine wave, 3 shocks each direction along 3 mutually perpendicular planes.
Thermal Shock	0.5h@-40°C, 0.5h@+85°C, Note: the changing time < 30 seconds, cycling for 100 times

### OX4170D-D3-1-12.800-3.3

#### MECHANICAL DIMENSIONS AND PIN FUNCTIONING



Unit : mm

PIN	SYMBOL	FUNCTION
1	NC	No Connected
2	GND	Ground
3	OUT	RF Output
4	V <sub>S</sub>	Supply Voltage

	Signed	Date
Created	AR	February 06, 2026
Eng. approved	CP	February 06, 2026
REV A		



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