

### OX4170P-HZ-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	$P_s$	Steady state, @ 25°C			230	mA
	$P_{s,w}$	During warm-up, @ 25°C			600	mA
Warm-up Time	$t_w$	$V_s$ , $T_a = +25^\circ\text{C}$ , within $\pm 20\text{ppb}$ 1 hour on			3	min
Initial Frequency Tolerance	$\Delta f/f_0$	$T_a = +25^\circ\text{C}$ , after 15min power on ref. to nominal frequency	-1		+1	ppm
Frequency Stability vs. Temperature	$\Delta f/f_0 (T_a)$	$T_a = -20^\circ\text{C} \dots +70^\circ\text{C}$ , measurement referenced to 25°C	-20		+20	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	-10		+10	ppb
Frequency Stability vs. Load Variation	$\Delta f/f_0 (\Delta I)$	$T_a = 25^\circ\text{C}$ , $V_s$ , load=15pF $\pm 5\%$	-10		+10	ppb
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily	-2		+2	ppb
	$\Delta f/\Delta t_y$	First year	-1		+1	ppm
	$\Delta f/\Delta t_y$	10 years	-3		+3	ppm
Free-run Accuracy		All causes, 20 years life, reference to nominal frequency	-4.6		+4.6	ppm
Operating Temperature Range	$T_a$		-20		+70	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55		+105	°C

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### CMOS OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOL	V <sub>s</sub> = 3.3V, load = 15pF			0.3	V
	VOH	V <sub>s</sub> = 3.3V, load = 15pF	2.4			V
Duty Cycle	DC	load = 15pF	45		55	%
Load				15		pF
Rise / Fall Time		@25°C, 10%~90% )			4	ns

### PHASE NOISE

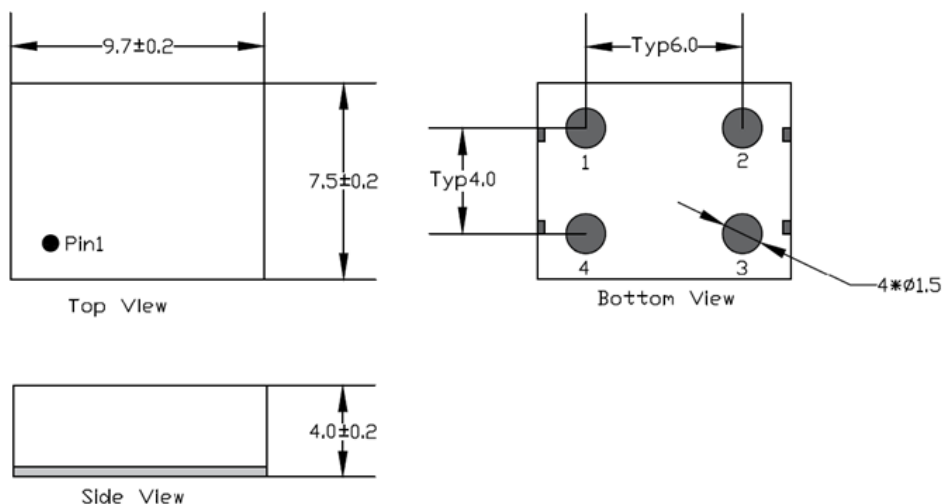
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	£ (Δf)				-70	dBc/Hz
@10 Hz Offset	£ (Δf)				-108	dBc/Hz
@100 Hz Offset	£ (Δf)				-138	dBc/Hz
@1 kHz Offset	£ (Δf)				-150	dBc/Hz
@10 kHz Offset	£ (Δf)				-155	dBc/Hz
@100 kHz Offset	£ (Δf)				-158	dBc/Hz
@1 MHz Offset	£ (Δf)				-163	dBc/Hz

### ENVIRONMENTAL MECHANICAL CONDITIONS

Storage Temperature Range	-55°C to +105°C
Moisture Sensitivity Level	Level 3.
ESD Level	Human Body Model, class2: 2000V to 4000V; ANSI/ESDA/JEDEC JS-001-2010.
	Machine Model, class B: 200V to 400V; JEDEC JESD22-A115C.
Vibration	Test Condition: 0.75mm ; acceleration: 10g; 10Hz ~ 2000Hz, one cycle per 30 min, test 2 hour. (3 times for each 3 directions X, Y, Z) .IEC 68-2-06 Test Fc.
Shock	100g ; 6ms ; half sine wave (3 times for each 3 directions X, Y, Z) ,IEC 68-2-27 Test Ea/Severity 50A.

### OX4170P-HZ-1-12.800-3.3

#### MECHANICAL DIMENSIONS AND PIN FUNCTIONING



Unit: mm

PIN	SYMBOL	FUNCTION
1	N/C	No connect
2	GND	Ground
3	OUTPUT	Output
4	Vcc	Supply Voltage

	Signed	Date
Created	AR	January 26, 2026
Eng. approved	CP	January 26, 2026
REV A		



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