

OX4128A-D3-0.5-20.000-3.3



ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_o		20.000			MHz
Supply Voltage	V_s	$V_s \pm 5\%$ @ 25°C	3.135	3.3	3.465	V
Current Consumption	I_s	Steady state, @ 25°C			600	mA
	I_w	During warm-up, @ 25°C			1000	mA
Warm-up Time	t_w	$T_a = +25^\circ\text{C}$ within $\pm 10\text{ppb}$ of final frequency with reference after 30 min on			5	min
Frequency Calibration	$\Delta f/f_o$	$T_a = +25^\circ\text{C}$, after 15mins power on ref. to nominal frequency	-0.2		+0.2	ppm
Frequency Stability vs. Temperature	$\Delta f/f_o (T_a)$	$T_a = -40^\circ\text{C} \dots +85^\circ\text{C}$, measurement referenced to 25°C, peak to peak			5	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_o (\Delta V_{CC})$	$T_a = 25^\circ\text{C}$, $V_s \pm 5\%$, load = 15pF	-2		+2	ppb
Frequency Stability vs. Load Change	$\Delta f/f_o (\Delta I)$	$T_a = 25^\circ\text{C}$, Load change, max.: $\pm 5\%$	-1		+1	ppb
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily	-1		+1	ppb
	$\Delta f/\Delta t_y$	First year	-100		+100	ppb
	$\Delta f/\Delta t_y$	10 years	-700		+700	ppb
Operating Temperature Range	T_a		-40		+85	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-55		+105	°C

HCMOS OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOL				0.3	V
	VOH		2.7			V
Duty Cycle	DC	load = 15pF	45		55	%
Rise/Fall Time	t_r/t_f	10% ~ 90% Vout			5	ns
Load				15		pF

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PHASE NOISE

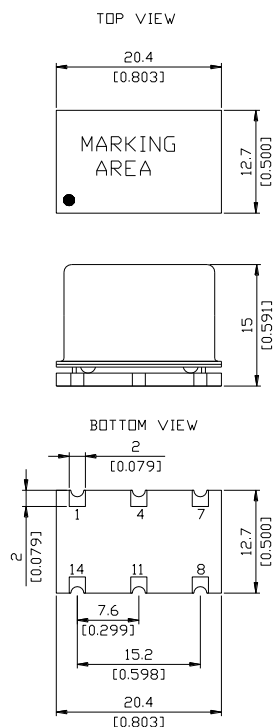
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	$\mathcal{E} (\Delta f)$				-110	dBc/Hz
@100 Hz Offset	$\mathcal{E} (\Delta f)$				-130	dBc/Hz
@1 kHz Offset	$\mathcal{E} (\Delta f)$				-145	dBc/Hz
@10 kHz Offset	$\mathcal{E} (\Delta f)$				-150	dBc/Hz

ENVIRONMENTAL MECHANICAL CONDITIONS

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
Bumping Test	Device are bumped to three mutually perpendicular axes at peak acceleration of 400m/s ² , each 4000±10times, 6ms pulse duration time
Vibration Test	Frequency range: 1Hz-4Hz-100Hz-200Hz Acceleration: 0.0001g ² /Hz-0.01g ² /Hz-0.01g ² /Hz-0.001g ² /Hz Grms=1.15g Sweep time: 30 minutes (perpendicular axes each sweep time)
Mechanical Shock	100g, 6mS 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

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MECHANICAL DIMENSIONS AND PIN FUNCTIONS



PIN	SYMBOL	FUNCTION
1	NC	No Connect
4	NC	Don't Connect
7	GND	Ground
8	OUTPUT	RF Output
11	NC	Don't Connect
14	V _S	Supply Voltage

	Signed	Date
Created	CP	April 08, 2016
Eng. approved	SP	April 08, 2016
REV A B	Initial Release CP, March 3, 2021 Updated to the current spec levels	