

OX4115A-D3-0.5-38.880-3.3



ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_o		38.880			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			300	mA
	$I_{s,w}$	During warm-up, @ 25°C			750	mA
Warm-up Time	t_w	V_s , $T_a = +25^\circ\text{C}$ within ± 100 ppb of final frequency with reference after 1 hour on			1	min
Frequency Calibration	$\Delta f/f_o$	$T_a = +25^\circ\text{C}$, after 15min power on ref. to nominal frequency	-200		+200	ppb
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	-5		+5	ppb
Frequency Stability vs. Supply Voltage	$\frac{\Delta f/f_o}{(\Delta V_{CC})}$	$T_a = 25^\circ\text{C}$, $V_s \pm 5\%$, load=15pF	-1		+1	ppb
Frequency Stability vs. Load Change	$\Delta f/f_o (\Delta I)$	$T_a = 25^\circ\text{C}$, Load $\pm 10\%$	-1		+1	ppb
Short Term Stability		After power on 1 hour, $\tau = 1s$			0.05	ppb
Aging, after 30 days of Operation	$\Delta f/\Delta t_d$	Daily	-0.8		+0.8	ppb
	$\Delta f/\Delta t_y$	First year	-100		+100	ppb
	$\Delta f/\Delta t_y$	10 years	-600		+600	ppb
Operating Temperature Range	T_a		-40		+85	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-40		+105	°C

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PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	$\mathcal{E} (\Delta f)$				-70	dBc/Hz
@10 Hz Offset	$\mathcal{E} (\Delta f)$				-100	dBc/Hz
@100 Hz Offset	$\mathcal{E} (\Delta f)$				-130	dBc/Hz
@1 kHz Offset	$\mathcal{E} (\Delta f)$				-150	dBc/Hz
@10 kHz Offset	$\mathcal{E} (\Delta f)$				-156	dBc/Hz
@100 kHz Offset	$\mathcal{E} (\Delta f)$				-158	dBc/Hz

CMOS OUTPUT CHARACTERISTICS

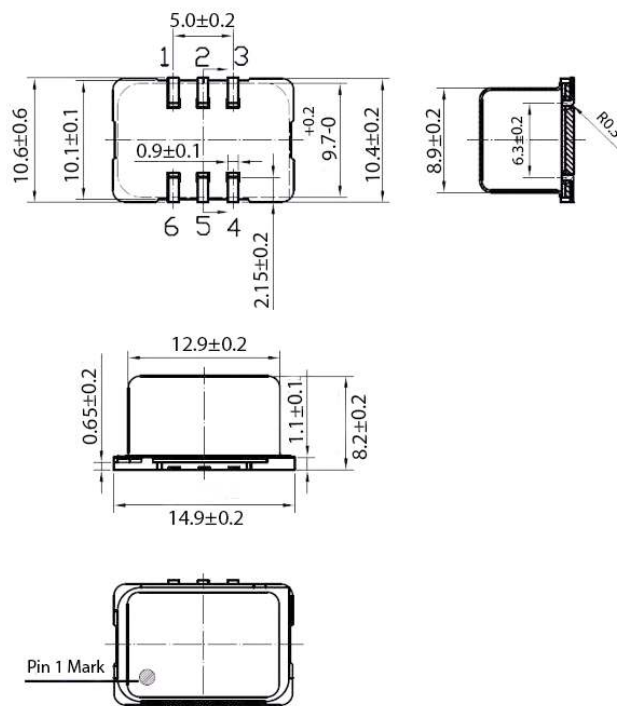
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOL	load = 15pF			0.4	V
	VOH	load = 15pF	2.4	2.8		
Duty Cycle	DC	load = 15pF	45		55	%
Rise/Fall Time	t_r/t_f	10% ~ 90% Vout			6	ns
Load		$\pm 5\%$		15		pF
Spurious					-70	dBc

ENVIRONMENTAL MECHANICAL CONDITIONS

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 FUNCTIONING



PIN	SYMBOL	FUNCTION
1	N/C	No connect
2	N/C	No connect
3	GND	Ground
4	OUTPUT	RF Output
5	N/C	No connect
6	Vs	Supply Voltage

Raltron	Signed	Date
Created	CP	July 15, 2022
Eng. approved	SP	July 15, 2022
REV A		