

### OX4115A-D3-0.5-19.200-3.3



#### ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	$f_0$		19.200			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 $\pm 100$ ppb of final frequency with reference after 1 hour on			3	min
Frequency Calibration	$\Delta f/f_0$	$T_a = +25^\circ\text{C}$ , after 15min power on ref. to nominal frequency	-200		+200	ppb
Frequency Stability vs. Temperature	$\Delta f/f_0 (T_a)$	$T_a = -40^\circ\text{C} \dots +85^\circ\text{C}$ , measurement referenced to 25°C	-5		+5	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_0 (\Delta V_{CC})$	$T_a = 25^\circ\text{C}$ , $V_s \pm 5\%$ , load=15pF	-1		+1	ppb
Frequency Stability vs. Load Change	$\Delta f/f_0 (\Delta I)$	$T_a = 25^\circ\text{C}$ , Load $\pm 10\%$	-1		+1	ppb
Short Term Stability		After power on 1 hour, $\tau = 1\text{s}$			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

### OX4115A-D3-0.5-19.200-3.3

#### PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	$\mathcal{E} (\Delta f)$				-65	dBc/Hz
@10 Hz Offset	$\mathcal{E} (\Delta f)$				-95	dBc/Hz
@100 Hz Offset	$\mathcal{E} (\Delta f)$				-120	dBc/Hz
@1 kHz Offset	$\mathcal{E} (\Delta f)$				-135	dBc/Hz
@10 kHz Offset	$\mathcal{E} (\Delta f)$				-145	dBc/Hz
@100 kHz Offset	$\mathcal{E} (\Delta f)$				-152	dBc/Hz

#### CMOS OUTPUT CHARACTERISTICS

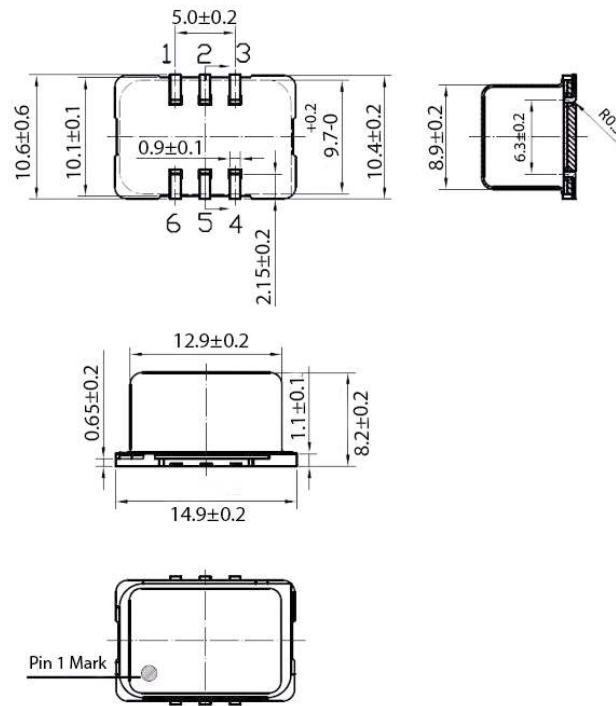
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOL	load = 15pF			0.4	V
	VOH	load = 15pF	2.4	2.8		
Duty Cycle	DC	load = 15pF	45		55	%
Rise/Fall Time	$t_r/t_f$	10% ~ 90% Vout			5	ns
Load		$\pm 5\%$		15		pF
Spurious					-70	dBc

#### 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 <sup>2</sup> , each 4000±10times, 6ms pulse duration time
Vibration Test	Frequency range: 1Hz-4Hz-100Hz-200Hz Acceleration: 0.0001g <sup>2</sup> /Hz-0.01g <sup>2</sup> /Hz-0.01g <sup>2</sup> /Hz-0.001g <sup>2</sup> /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

### OX4115A-D3-0.5-19.200-3.3

#### 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		