

**OX4170A-D3-2-10.000-3.3**



**ELECTRICAL SPECIFICATIONS**

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	$f_0$		10.000			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			500	mA
Warm-up Time	$t_w$	$V_s$ , $T_a = +25^\circ\text{C}$ , within $\pm 200$ ppb of final frequency with reference after 1 hours on			3	min
Frequency Calibration	$\Delta f/f_0$	$T_a = +25^\circ\text{C}$ , after 15min power on ref. to nominal frequency and within 90 days storage.	-500		+500	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	-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 Change	$\Delta f/f_0 (\Delta I)$	Load change max.: 10%	-10		+10	ppb
Frequency vs. Temperature slope		1°C/ min, 5°C step	-1		+1	ppb/°C
Aging, after 30 Days of Operation	$\Delta f/\Delta t_d$	Daily	-2		+2	ppb
	$\Delta f/\Delta t_y$	First year	-400		+400	ppb
	$\Delta f/\Delta t_y$	10 years	-2		+2	ppm
Total free run Frequency Stability	$\Delta f/\Delta t$	Including 20 Years of aging, Voltage supply variation, load variation, frequency calibration, frequency stability vs. temperature.	-4.6		+4.6	ppm
Operating Temperature Range	$T_a$		-40		+85	°C
Storage Temperature Range	$T_{(stg)}$	Absolute max	-40		+85	°C

**OX4170A-D3-2-10.000-3.3**

**LVC MOS 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	3.0			
Duty Cycle	DC	load = 15pF	45		55	%
Rise/Fall Time	t <sub>r</sub> /t <sub>f</sub>	10% ~ 90% V <sub>out</sub>		2	5	ns
Load			13.5	15	16.5	pF
Spurious					-70	dBc

**PHASE NOISE**

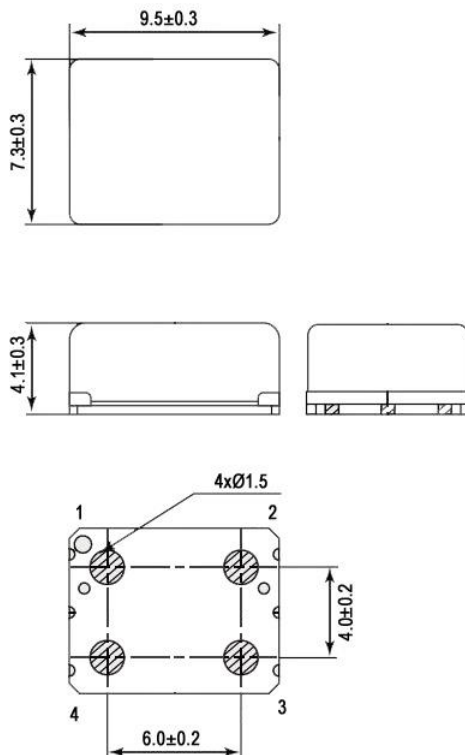
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ. / Nom.	Max.	
@1 Hz offset	£ (Δf)			-67	-64	dBc/Hz
@10 Hz Offset	£ (Δf)			-100	-95	dBc/Hz
@100 Hz Offset	£ (Δf)			-130	-125	dBc/Hz
@1 kHz Offset	£ (Δf)			-150	-145	dBc/Hz
@10 kHz Offset	£ (Δf)			-158	-150	dBc/Hz
@100 kHz Offset	£ (Δf)			-160	-155	dBc/Hz
@1 MHz Offset	£ (Δf)			-163	-160	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
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

### OX4170A-D3-2-10.000-3.3

#### MECHANICAL DIMENSIONS AND PIN FUNCTIONING



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

	Signed	Date
Created	AR	June 11, 2020
Eng. approved	CP	June 11, 2020
REV A		



Raltron Electronics / RAMI Technology USA, LLC, including its affiliates, employees, agents and other persons acting on its behalf (collectively Raltron/RAMI Tech), disclaim any and all liability for any errors or inaccuracies contained in this data sheet. While Raltron/RAMI Tech has made every reasonable effort to ensure the accuracy of all product information, specifications and data contained herein, Raltron/RAMI Tech does not guarantee that the information is accurate, reliable or current. The product information is provided only for reference purposes only and is subject to change, correction or revision, at any time without notice. Raltron/RAMI Tech does not assume any liability arising out of an application or use of any product described herein and disclaims any warranties expressed or implied. The user of products in such applications shall assume all risks of such use and will agree to hold Raltron/RAMI Tech, harmless against all damages.

Copyright © 2016, Raltron Electronics / RAMI Technology USA, LLC. All rights reserved. No part of this document may be reproduced in any form without the prior written permission of Raltron Electronics / RAMI Technology USA, LLC.