RALTRON
A RAMI TECHNOLOGY Company

Oven Controlled Crystal Oscillator

OX4170A-D3-2-25.000-3.3

RoHS Compliant

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_o			25.000		MHz
Supply Voltage	V_s	Vs ±5% @ 25°C	3.135	3.3	3.465	V
Input Power	P_S	Steady state, @ 25°C			350	mW
	$P_{S,w}$	During warm-up ,@ 25°C			900	mW
Warm-up Time	tw	Vs, Ta=+25°C, within ±100ppb of final frequency with reference after 1 hour on			3	min
Frequency Calibration	$\Delta f/f_0$	Ta=+25°C, after 15mins power on ref. to nominal frequency	-500		+500	ppb
Frequency Stability vs. Temperature	$\Delta f/f_0$ (T_a)	Ta= -40°C…+85°C, measurement referenced to 25°C	-20		+20	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_0$ (ΔV_{CC})	Ta=25°C, Vs±5%, load=15pF	-10		+10	ppb
Frequency Stability vs. Load Variation	$\Delta f/f_0$ (Δl)	Ta=25°C, Vs, load=15pF±5%	-10		+10	ppb
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily	-2.0	±1.0	+2.0	ppb
Operating Temperature	T_a		-40		+85	°C
Storage Temperature	$T_{(stg)}$	Absolute max	-40		+105	°C

OX4170A-D3-2-25.000-3.3

PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	£ (Δf)			-90	-85	dBc/Hz
@100 Hz Offset	£ (Δf)			-122	-115	dBc/Hz
@1 kHz Offset	£ (Δf)			-146	-140	dBc/Hz
@10 kHz Offset	£ (Δf)			-158	-155	dBc/Hz
@100 kHz Offset	£ (Δf)			-160	-158	dBc/Hz
@1 MHz Offset	£ (Δf)			-163	-160	dBc/Hz

CMOS OUTPUT CHARACTERISTICS

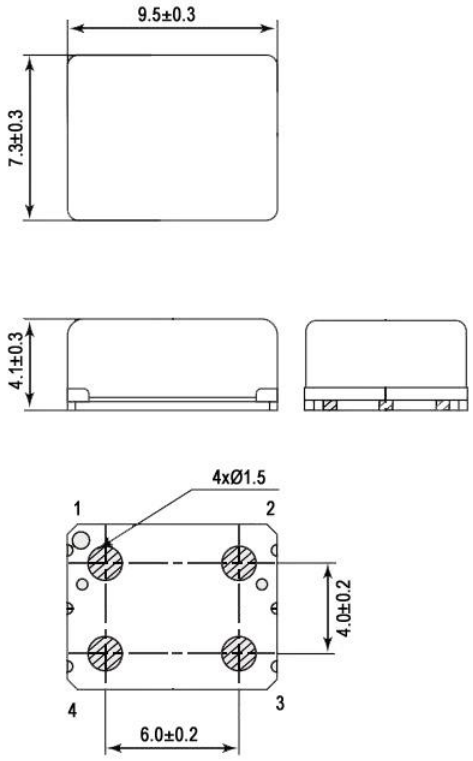
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOH/VOL	V_{CC} = 3.3V, load = 15pF		3.0/0.3		V
Duty Cycle	DC	load = 15pF		45/55		%
Load				15		pF

ENVIRONMENTAL MECHANICAL CONDITIONS

Storage temperature range	-40°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/s², each 4000±10times, 6ms pulse duration time
Vibration Test	Frequency range: 1Hz-4Hz-100Hz-200Hz Acceleration: 0.0001g²/Hz-0.01g²/Hz-0.01g²/Hz-0.001g²/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℃，0.5h@+85℃，Note: the changing time < 30 seconds, cycling for 100 times

OX4170A-D3-2-25.000-3.3

MECHANICAL DIMENSIONS AND PIN FUNCTIONING



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

RALTRON	Signed	Date
Created	CP	July 22, 2019
Eng. approved	SP	July 22, 2019
REV A	Original Release	
B	CP, September 05, 2019	