A RAMI TECHNOLOGY Company

Low Power Oven Controlled Crystal Oscillator

OXL6025A-D3-5-10.000-5

FEATURES

Very low power consumption (0.15W at +25°C)

Very fast warming-up (to 15s)

Low phase noise level (-165dBc/Hz floor)

Low profile (12mm height)

RoHS Compliant

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_o			10.000		MHz
Supply Voltage	V_s	Vs ±5% @ 25°C	4.75	5.0	5.25	V
Power Consumption	**P_S**	**Steady state, @ 25°C**			**0.15**	**W**
	$P_{S,w}$	**During warm-up ,@ 25°C**			**0.7**	**W**
Warm-up Time	t_W	Vs, nom., Ta=+25°C within ±0.1ppm of final frequency with reference after 15min on	15	60		s
Frequency Calibration	$\Delta f/f_0$	Vc=1.65V/@25°C, after 15mins power on ref. to nominal frequency and within 90 days storage.			±0.2	ppm
Frequency Stability vs. Temperature	**$\Delta f/f_0$ (T_a)**	**Ta= -40°C...+85°C, measurement referenced to 25°C**			**±5**	**ppb**
Frequency Stability vs. Supply Voltage	$\Delta f/f_0$ (ΔV_{CC})	Ta=25°C, Vs±5%, load=15pF			±2	ppb
Frequency Stability vs. Load Change	$\Delta f/f_0$ (Δl)	per %load change, max.: 5%			±2	ppb
Allan variance		1s		20E-12		
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily	-0.2		+0.2	ppb
	$\Delta f/\Delta t_y$	First year	-20		+20	ppb
Operating Temperature	T_a		-40		+85	°C
Storage Temperature	$T_{(stg)}$	Absolute max	-60		+90	°C

A RAMI TECHNOLOGY Company

Low Power Oven Controlled Crystal Oscillator

OXL6025A-D3-5-10.000-5

PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	£ (Δf)		-100	-90		dBc/Hz
@10 Hz Offset	£ (Δf)		-130	-125		dBc/Hz
@100 Hz Offset	£ (Δf)		-148	-145		dBc/Hz
@1 kHz Offset	£ (Δf)		-158	-155		dBc/Hz
@10 kHz Offset	£ (Δf)		-165	-165		dBc/Hz

VOLTAGE CONTROL CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Control Voltage Range	Vc		0		4.2	V
Frequency tuning range			±0.5	±1		ppm
Slope		Positive				
Linearity			-10		+10	%
Reference voltage	V_{ref}		4.1	4.2	4.3	V

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/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

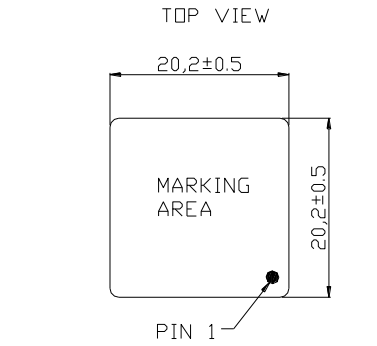
Low Power Oven Controlled Crystal Oscillator

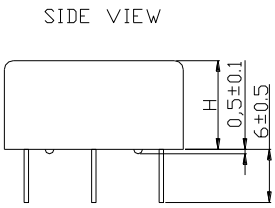
OXL6025A-D3-5-10.000-5

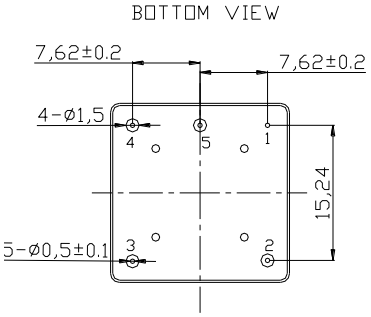
CMOS OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOH/VOL	V_{CC} = 5.0V, load = 15pF		3.8/0.4		V
Duty Cycle	DC	load = 15pF		45/55		%
Rise/Fall Time	t_r/t_f	10% ~ 90% Vout			10	ns
Load				15		pF

MECHANICAL DIMENSIONS AND PIN FUNCTIONING







Height max "H" = 12mm

OXL6025A-D3-5-10.000-5

PIN	SYMBOL	FUNCTION
1	Vc	Ground
2	N/C	RF Output
3	GND	Supply Voltage
4	OUTPUT	Voltage Control
5	N/C	Reference Voltage

March 2017