RALTRON
A RAMI TECHNOLOGY Company

Oven Controlled Crystal Oscillator

OX6551A-D3-10-100.000-5

RoHS Compliant

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Nominal Frequency	f_o			100		MHz
Supply Voltage	V_s	Vs ±5% @ 25°C	4.75	5.0	5.25	V
Power Consumption	P_S	Steady state, @ 25°C			1.5	W
	$P_{S,w}$	During warm-up			3.5	W
Frequency Calibration	$\Delta f/f_0$	Vs =5.0V, Ta=25°C, Vc=2.0V, after 30 min power on, ref to nominal freq	-100		+100	ppb
Frequency Stability vs. Temperature	$\Delta f/f_0$ (T_a)	Ta= -40°C…+85°C, measurement referenced to 25°C	-100		+100	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_0$ (ΔV_{CC})	Ta=25°C, Vs±5%, load=50Ω	-10		+10	ppb
Control Voltage Range			0	2	4	V
Frequency Tuning Range		Vc=0V			-1	ppm
		Vc=2V	-100		+100	ppb
		Vc=4V	+1			ppm
Input impedance	Zin	Vc	100			kΩ
Linearity	$\Delta f/f_0$ (ΔV_C)	0V≤Vc≤4.0V			10	%
Slope		Positive				
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily	-5.0		+5.0	ppb
	$\Delta f/\Delta t_y$	First year	-500		+500	ppb
Warm-up Time		Within ±100 ppp of final freq with reference after 1 hour @ 25°C			3	min
Operating Temperature Range			-40		+85	°C

SINE WAVE OUTPUT CHARACTERISTICS

Sine wave output level	Vout	V_S = 5.0V, load = 50Ω	+7			dBm
Harmonics	DC	V_s = 5.0V, load = 50Ω			-25	dBc
Spurious		V_s = 5.0V, load = 50Ω			-75	dBc
Load				50		Ω
Reference Voltage	Vref		3.8	4.0	4.2	V

PHASE NOISE

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PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@10 Hz Offset	£ (Δf)				-90	dBc/Hz
@100 Hz Offset	£ (Δf)				-125	dBc/Hz
@1k Hz Offset	£ (Δf)				-150	dBc/Hz
@10 kHz Offset	£ (Δf)				-155	dBc/Hz
@100 kHz Offset	£ (Δf)				-160	dBc/Hz

Environmental

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Drop Test	IEC60028-2-32 Test Ed, 10cm height, 3 times on hard board thickness of 3 cm
Bumping Test	Device are bumped to three mutually perpendicular axes at peak acceleration of 400m/s^2, each 4000±10 times, 6 ms pulse duration time
Vibration Test	Frequency range: 1Hz -4Hz -100Hz-200Hz, acceleration:0.0001 g^2/Hz-0.01 g^2/Hz-0.01 g^2/Hz-0.001 g^2/Hz Grms=1.15g Sweep time: 30 minutes (perpendicular axes each sweep time)
Mechanical Shock	100g, 6ms duration, ½ 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
Storage Temperature	-55°C to +85°C

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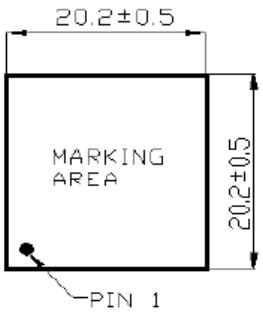
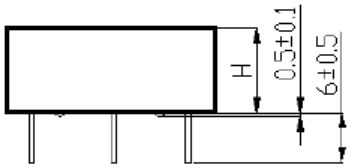
MECHANICAL DIMENSIONS AND PIN FUNCTIONING

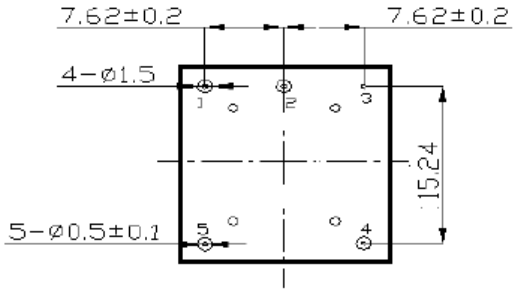
TOP VIEW



SIDE VIEW



BOTTOM VIEW



PIN	SYMBOL	FUNCTION
1	Vs	Supply Voltage
2	RF OUT	RF Output
3	GND	Ground
4	Vc	Control Voltage
5	Vref	Reference Voltage

HEIGHT, MAX. "H":
0.413" / 10.5mm

	Signed	Date
Created	SP	03/19/2018
Eng. approved	SP	03/19/2018

REV A	Initial Release
Rev B	CP, February 04, 2021 Updated To the current spec level
Rev C	AR, February 16, 2021 Updated Mechanical Dimensions
Rev D	CP, March 29, 2024 Corrected the Reference Voltage