

OX4180MRHA-D3-2-10.000-5**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	4.75	5.0	5.25	V
Input Current	I_s	Steady state, @ 25°C			300	mA
	I_w	During warm-up, @ 25°C			700	mA
Overall Frequency Stability	$\Delta f/f_0$	Included Initial Accuracy, Stability over Temperature, Load, Supply Voltage and Aging 10 Years	-500		+500	ppb
Initial Frequency Accuracy	$\Delta f/f_0$	@25°C after 10 mins power on ref to nominal frequency	-200		+200	ppb
Frequency Stability vs. Temp.	$\Delta f/f_0 (T_a)$	$T_a = -40^\circ\text{C} \dots +85^\circ\text{C}$	-20		+20	ppb
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Daily aging	-0.5		+0.5	ppb
	$\Delta f/\Delta t_y$	First year	-50		+50	ppb
	$\Delta f/\Delta t_{10y}$	10 years including 1 st year	-250		+250	ppb
Short Term Stability		Still air, after 1 hour, $T_a = 25^\circ\text{C}$, 1s			5	ppt
G-Sensitivity		Per axis			1	ppb/g
Warm-up Time		Within ± 10 ppb, ref after 1 hour @ 25°C			5	min
Operating Temperature Range	T_a		-40		+85	°C

CMOS OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	V_{OL}				0.4	V
	V_{OH}		2.4			V
Duty Cycle	DC	load = 15pF	45	50	55	%
Rise/Fall Time	t_r/t_f	10% ~ 90% V_{out}			10	ns
Load				15		pF
Sub-harmonic					None	dBc
Spurious					-70	dBc

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PHASE NOISE

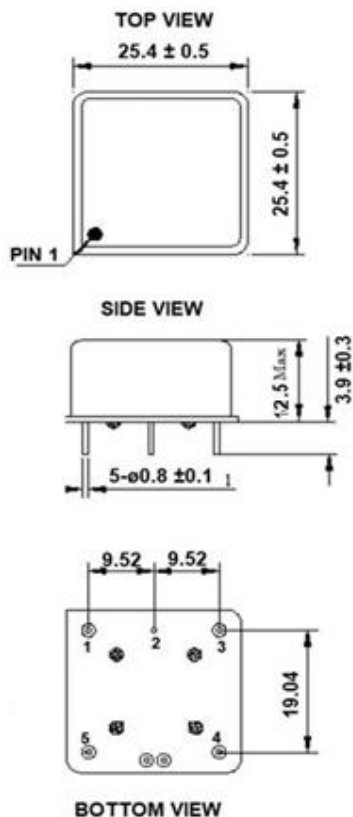
PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	$\text{£} (\Delta f)$			-106		dBc/Hz
@10 Hz Offset	$\text{£} (\Delta f)$			-135		dBc/Hz
@100 Hz Offset	$\text{£} (\Delta f)$			-155		dBc/Hz
@1 kHz Offset	$\text{£} (\Delta f)$			-165		dBc/Hz
@10 kHz Offset	$\text{£} (\Delta f)$			-170		dBc/Hz
@100 kHz Offset	$\text{£} (\Delta f)$			-170		dBc/Hz
@1 MHz Offset	$\text{£} (\Delta f)$			-170		dBc/Hz

ENVIRONMENTAL MECHANICAL CONDITIONS

Storage Temperature range	-55°C to +105°C
Mechanical Shock	MIL-STD-202, Method 213, Test Condition J (30 g, 11 ms half-sine)
Vibration	MIL STD 202, Method 201, (0.06" Peak to Peak, 10 to 55 Hz)
Humidity	MIL STD 202, Method 103, Test Condition B (95% at 40°C for 96 hours)
Radiation Tolerance	This Product will be built with: a. Active and Passive Components which will meet or exceed AEC criterium b. All Active Components integrated in the design will have been upscreened to 35krad level c. All materials utilized will be traceable to the manufacturer's Lot# and Date Code d. Swept Quartz will be utilized when specified by the customer at additional charge e. Additional Screening or Lot Acceptance Testing can be customized / specified with additional charges

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MECHANICAL DIMENSIONS AND PIN FUNCTIONS



PIN	SYMBOL	FUNCTION
1	V _s	Supply Voltage
2	OUT	RF Output
3	GND	Case Ground
4	NC	Not Connected
5	NC	Not Connected

	Signed	Date
Created	CP	May 19, 2025
Eng. approved	GR	May 19, 2025
REV A	Initial Release	