A RAMI TECHNOLOGY Company

Oven Controlled Crystal Oscillator

OCXO SERIES 2800

FEATURES
Miniature OCXO in standard 14-pin DIP package with SMD adapter
Fast warm up
Frequencies up to 100 MHz

RoHS Compliant

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Frequency Range*	f_o		5.000		100.000	MHz
Supply Voltage	V_s	Vs ±5%	3.135	3.3	3.465	V
Power Consumption	P_S	Steady state, @ 25°C			1.0	W
	$P_{S,w}$	During warm-up ,@ 25°C			2.8	
Warm-up Time	t_W	Vs, Ta=+25°C, within ±100ppb of final frequency with reference after 1 hour on			5	min
Initial Tolerance	$\Delta f/f_0$	At time of shipment	-200		+200	ppb
Frequency Stability vs. Temperature*	$\Delta f/f_0$ (T_a)	Measurement referenced to (fmax+fmin)/2. See Table	-10		+10	ppb
Frequency Stability vs. Supply Voltage	$\Delta f/f_0$ (ΔV_{CC})	Ta=25°C, Vs±5%, load=15pF	-5		+5	ppb
Frequency Stability vs. Load Variation	$\Delta f/f_0$ (ΔI)	Ta=25°C, Vs, load=15pF±5%	-5		+5	ppb
Aging, after 30 days of operation	$\Delta f/\Delta t_d$	Per day	-2		+2	ppb
	$\Delta f/\Delta t_y$	First year	-200		+200	ppb
	$\Delta f/\Delta t_y$	10 years	-1.6		+1.6	ppm
Operating Temperature Range*			-40		+85	°C
Storage Temperature	$T_{(stg)}$		-40		+105	°C
Short Term Stability		τ=1s			0.05	ppb
Control Voltage Range	V_C		0		2.8	V
Frequency Tuning Range		Referenced to frequency at 1.4 V	±2		±4	ppm
Linearity			-10		+10	%

***Not any Combination Frequency-Operating Temperature Range- Stability is available. Please consult factory**

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PHASE NOISE

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
@1 Hz Offset	£ (Δf)				-85	dBc/Hz
@10 Hz Offset	£ (Δf)				-115	dBc/Hz
@100 Hz Offset	£ (Δf)				-135	dBc/Hz
@1 kHz Offset	£ (Δf)				-148	dBc/Hz
@10 kHz Offset	£ (Δf)				-152	dBc/Hz
@100 kHz Offset	£ (Δf)				-155	dBc/Hz

CMOS OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	VALUE			UNIT
			Min.	Typ.	Max.	
Output Levels	VOH		2.4			V
	VOL				0.4	V
Duty Cycle	DC	Load = 15pF	45		55	%
Rise/Fall Time	tr/tf	10% ~ 90% Vout			7	ns
Load				15		pF

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/s^2, each 4000±10times, 6ms pulse duration time
Vibration Test	Frequency range: 1Hz-4Hz-100Hz-200Hz Acceleration: 0.0001g^2/Hz-0.01g^2/Hz-0.01g^2/Hz-0.001g^2/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

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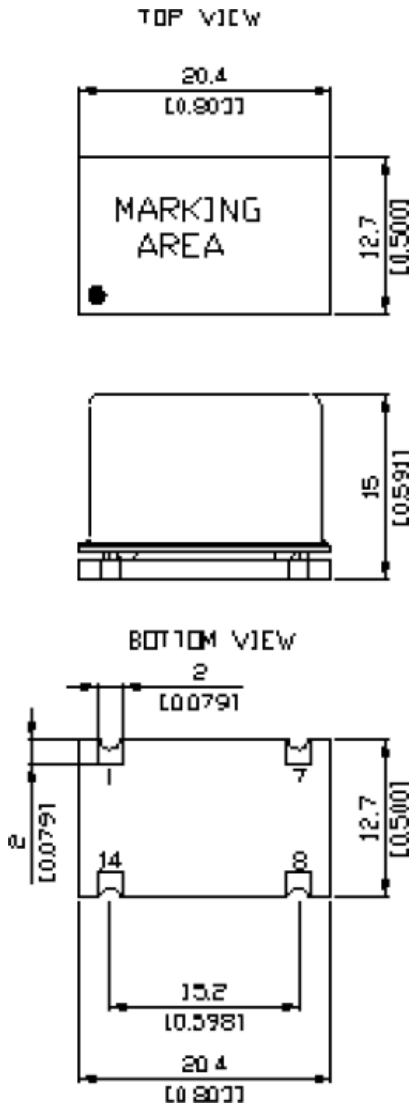
MECHANICAL DIMENSIONS AND PIN FUNCTIONING



PIN	SYMBOL	FUNCTION
1	V_C	Voltage Control
7	GND	Ground
8	OUTPUT	RF Output
14	V_S	Supply Voltage

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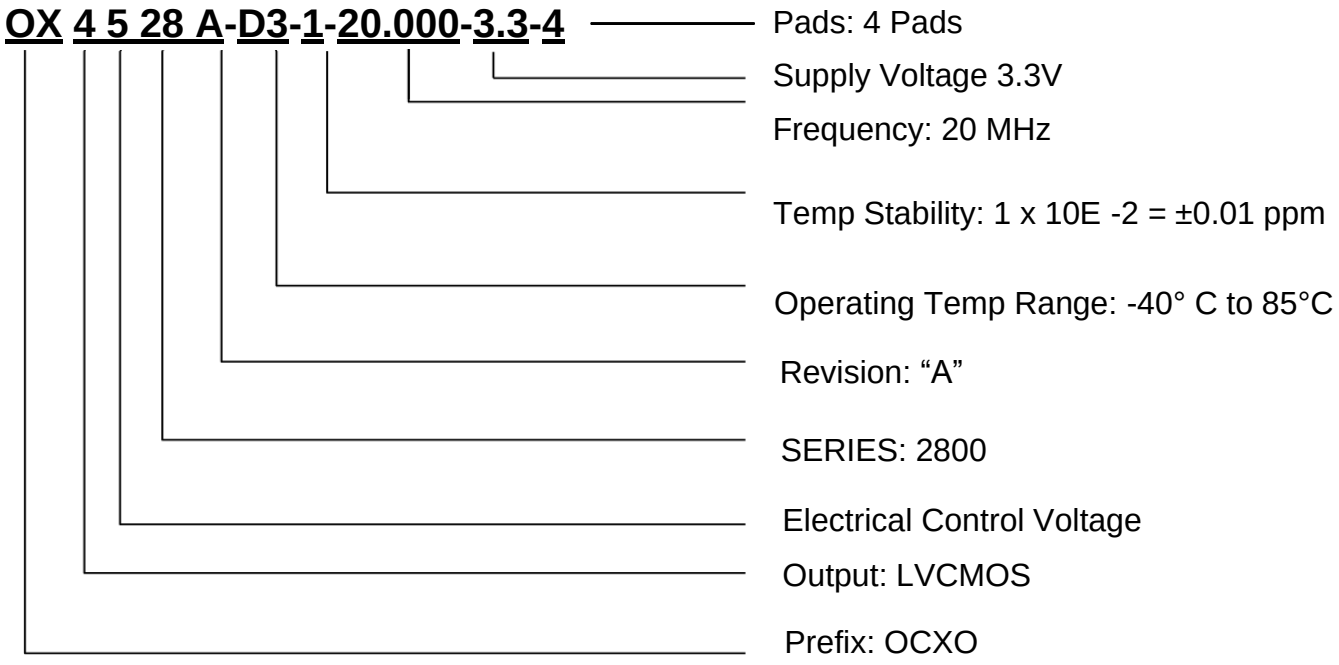
PART NUMBERING SYSTEM

Prefix	Output Type	Control Voltage	Series	Revision	Temperature Range	Stability	Frequency	Supply Voltage	Pads
OX	4: LVCMOS	1: No Control Voltage 5: Control Voltage	28:2800	A	First letter: Lowest Temperature, Second letter: Highest Temperature: From A=-55°C to Z=+70°C, Then: 1=+75°C, 2=+80°C, 3=+85°C… in 5°C Steps Example: HZ: -20°C to +70°C LZ: 0°C to +70°C D3: -40°C to +85°C	Value x 10E-2 in ppm Example: 1= 0.01 ppm	In MHz	3.3: 3.3 V	4: 4 Pads



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