DX-170

Oven Controlled Crystal Oscillator

Features

Ultra-High Stability
Excellent Temperature Stability
SC-Cut Crystal

Typical Applications

CDMA2000 and UMTS Base Stations
Test and Measurement Equipment

Previous Vectron Model Numbers	C4605
Frequency Range	5 MHz – 20 MHz
Standard Frequencies	5, 10 MHz

Frequency stabilities[1] [SC Cut Crystal)

Parameter	Min	Typ	Max	Units	Operating temp range
vs. operating temperature range (Referenced to +25°C)	-0.4 -0.2 -0.4		+0.4 +0.2 +0.4	ppb ppb ppb	0 … +70°C 0 … +70°C -20 … +70°C
Parameter	Min	Typ	Max	Units	Condition
Initial tolerance vs. supply voltage change vs. load change vs. aging / 1 day vs. aging / 1 day vs. aging / 1 year	-100 -0.2 -0.2 -0.5 -0.2 -25		+100 +0.2 +0.2 +0.5 +0.2 +25	ppb ppb ppb ppb ppb ppb	at time of shipment, nominal EFC V_S ± 5% Load ± 5% after 72 hours of operation after 7 days of operation after 72 hours of operation
Warm-up Time			5	minutes	to ± 10ppb of final frequency (1 hour reading) @ +25°C

Supply Voltage (Vs)

Parameter	Min	Typ	Max	Units	Condition
Supply voltage	11.4	12.0	12.6	VDC	
Power consumption			8	Watts	during warm-up
			3	Watts	steady state @ +25°C

RF Output

Parameter	Min	Typ	Max	Units	Condition
Signal [Option]	HCMOS				
Load			15 pF		
Signal Level (Vol)			0.5	VDC	15 pF Load
Signal Level (Voh)	4.5			VDC	15 pF Load
Duty Cycle	45		55	%	@ (Voh-Vol)/2
Signal [Standard]	Sinewave				
Load		50		Ohms	
Output Power	+5.0	+7.0	+9.0	dBm	50 Ohm load
Harmonics			-30	dBc	50 Ohm load

Frequency Tuning (EFC)

Parameter	Min	Typ	Max	Units	Condition
Tuning Range	±0.25	±0.5	±0.75	ppm	
Linearity			20	%	
Tuning Slope	Positive				
Control Voltage Range	0.0	2.5	5.0	VDC	

Additional Parameters

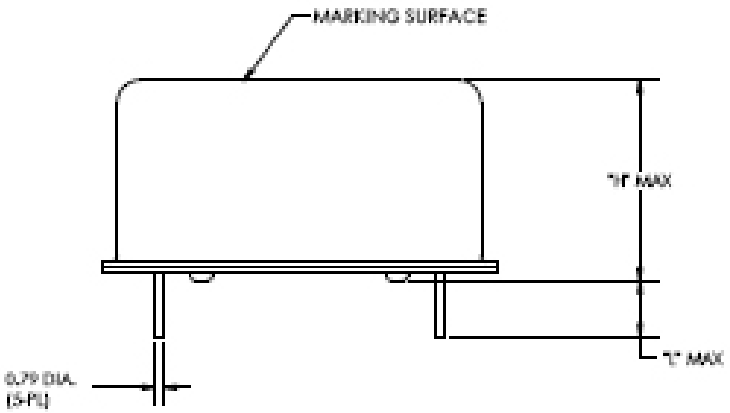
Parameter	Min	Typ	Max	Units	Condition	
Phase Noise			-90 -120 -135 -140 -140	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	1 Hz 10 Hz 100 Hz 1 kHz 10 kHz	@ 10MHz
Weight			50	g		

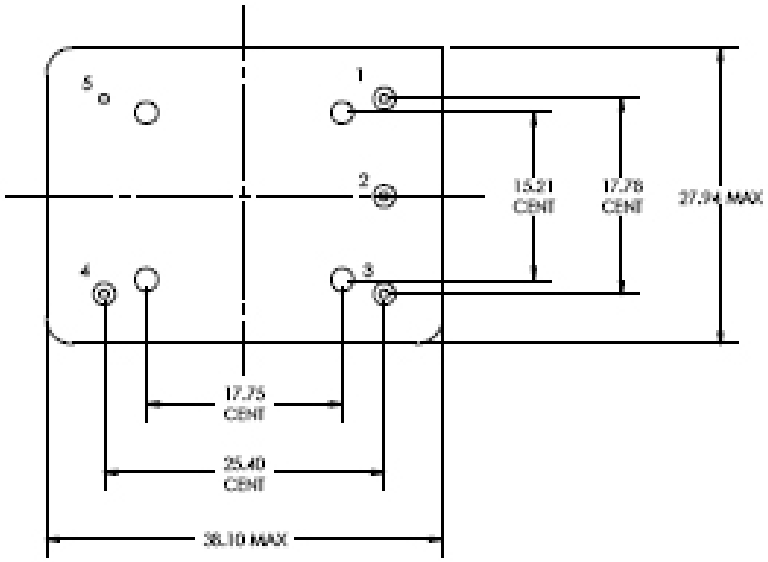
Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Supply voltage (Vs)			15	V	
Output Load			50 25	pF Ohm	with HCMOS signal with Sinewave signal
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

Enclosure

Type A		
Code:	Height “H“	Pin Length “L“
A1	19.00	5.00





Pin Connections			
1	Electronic Frequency Control Input (EFC)		
2	No Connect		
3	Supply Voltage Input (Vs)		
4	RF Output		
5	Ground (Case)		

How to order this product:

Use this worksheet to forward the following information to your factory representative :										
Model	Height	-	Supply Voltage Code	RF Output Code	Temperature Range	-	Stability	Frequency Control	-	Frequency
DX-170	0	-	B	A	J	-	400	0	-	10M0000000

Height:
0: 19.00 mm

Supply Voltage:
B: +12 V

RF Output Code:
A: HCMOS
E: Sinewave

Temperature Range:
J: -20...+70°C
T: 0 ... +70°C

Stability Code:
400: ±0.4ppb
200: ±0.2ppb

Frequency Control:
0: Fixed Frequency
1: ±0.25...±0.75 ppm

Notes:

1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
3 Phase noise degrades with increasing output frequency.
4 Subject to technical modification.
5 Contact factory for availability.