

Helping Customers Innovate, Improve & Grow



OX-170

Features

- Reflow Process Compatible
- AT-Cut and SC-Cut Crystal Options
- Low Profile Compact Package
- Previous Model: C4600
- Frequency Range: 5 MHz to 80 MHz

Applications

- Base Stations
- Test Equipment
- Synthesizers
- Military Communication Equipment
- Digital Switching

Performance Specifications

Frequency Stabilities ¹ (AT-Cut Crystal-Standard)					
Parameter	Min	Typical	Max	Unit	Condition
vs. operating temperature range (referenced to +25°C)	-30		+30	ppb	0 to +70°C
	-80		+80	ppb	-20 to +70°C
	-100		+100	ppb	-40 to +70°C
	-200		+200	ppb	-40 to +85°C
Initial tolerance	-300		+300	ppb	at time of shipment, nominal EFC
vs. supply voltage change	-5		+5	ppb	V _s ±5% static
vs. load change	-5		+5	ppb	Load ±5% static
vs. aging/day	-2		+2	ppb	after 30 days of operation
vs. aging/1st year	-500		+500	ppb	after 30 days of operation
vs. aging/year (following years)	-250		+250	ppb	after 30 days of operation
Warm-up time			5	minutes	to ±100ppb of final frequency (1 hour reading) @ +25°C
Frequency Stabilities ¹ (SC-Cut Crystal-Option)					
vs. operating temperature range (referenced to +25°C)	-10		+10	ppb	0 to +70°C
	-15		+15	ppb	-20 to +70°C
	-20		+20	ppb	-40 to +70°C
	-30		+30	ppb	-40 to +85°C
Initial tolerance	-0.1		+0.1	ppb	at time of shipment, nominal EFC
vs. supply voltage change	-5		+5	ppb	V _s ±5% static
vs. load change	-5		+5	ppb	Load ±5% static
vs. aging/day	-1		+1	ppb	after 30 days of operation
vs. aging/1st year	-100		+100	ppb	after 30 days of operation
vs. aging/year (following years)	-50		+50	ppb	after 30 days of operation
Warm-up time			5	minutes	to ±10ppb of final frequency (1 hour reading) @ +25°C

Performance Specifications

Supply Voltage (Vs)					
Parameter	Min	Typical	Max	Unit	Condition
Supply Voltage	3.135	3.3	3.465	VDC	
Supply Voltage	4.75	5.0	5.25	VDC	
Supply Voltage	11.4	12.0	12.6	VDC	
Power Consumption			3.5 1.0	Watts Watts	during warm-up steady state @ +25°C
RF Output					
Signal [Standard]	HCMOS				
Load		15		pF	
Signal Level (Vol)			0.4 0.5	VDC VDC	with Vs=3.3V and 15 pF Load with Vs=5V & 12V and 15 pF Load
Signal Level (Voh)	2.4 3.5			VDC VDC	with Vs=3.3V and 15 pF Load with Vs=5V & 12V and 15 pF Load
Duty Cycle	45		55	%	@ (Voh-Vol)/2
Signal	Sinewave				
Load		50		Ohms	
Output Power	+2.0 +5.0	+5.0 +8.0	+8.0 +11.0	dBm dBm	with Vs=3.3V and 50 Ohm load with Vs=5V & 12V and 50 Ohm load
Harmonics			-30	dBc	50 Ohm load
Frequency Tuning (EFC)					
Tuning Range	Fixed OCXO; No adjust				
Tuning Range	±6.0 ±0.75		±12.0 ±2.0	ppm ppm	with AT cut crystal with SC cut crystal
Linearity			10	%	
Tuning Slope	Positive				
Control Voltage Range	0.0 0.0	1.4 2.0	2.8 4.0	VDC VDC	with Vs=3.3V with Vs=5V & 12V
Reference Voltage Output (VRef)					
Reference Voltage	2.75 3.92 4.9	2.8 4.0 5.0	2.85 4.08 5.1	VDC VDC VDC	with Vs=3.3V with Vs=5V with Vs=12V
Additional Parameters					
Phase Noise ³			-90 -120 -140 -145 -150	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	1 Hz 10 Hz 100 Hz 1 kHz 10 kHz @ 10MHz with SC cut
Phase Noise ³			-75 -105 -130 -140 -150	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	1 Hz 10 Hz 100 Hz 1 kHz 10 kHz @ 10MHz with AT cut
Weight			25	g	

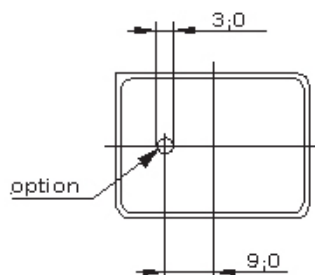
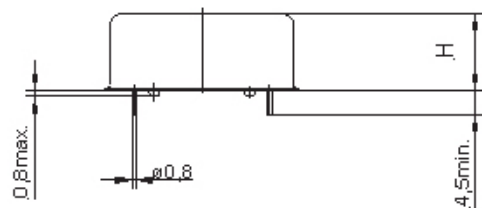
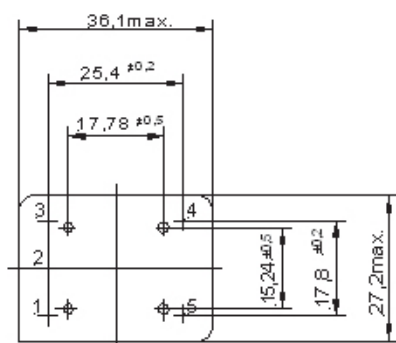
Performance Specifications

Absolute Maximum Ratings					
Parameter	Min	Typical	Max	Unit	Condition
Supply Voltage (Vs)			6.5 15	V V	with Vs=3.3V & 5V with Vs=12V
Output Load			50	pF	
Operable Temperature Range	-55		+85	°C	
Storage Temperature Range	-55		+125	°C	

Outline Drawing / Enclosure

G157

Dimensions in mm



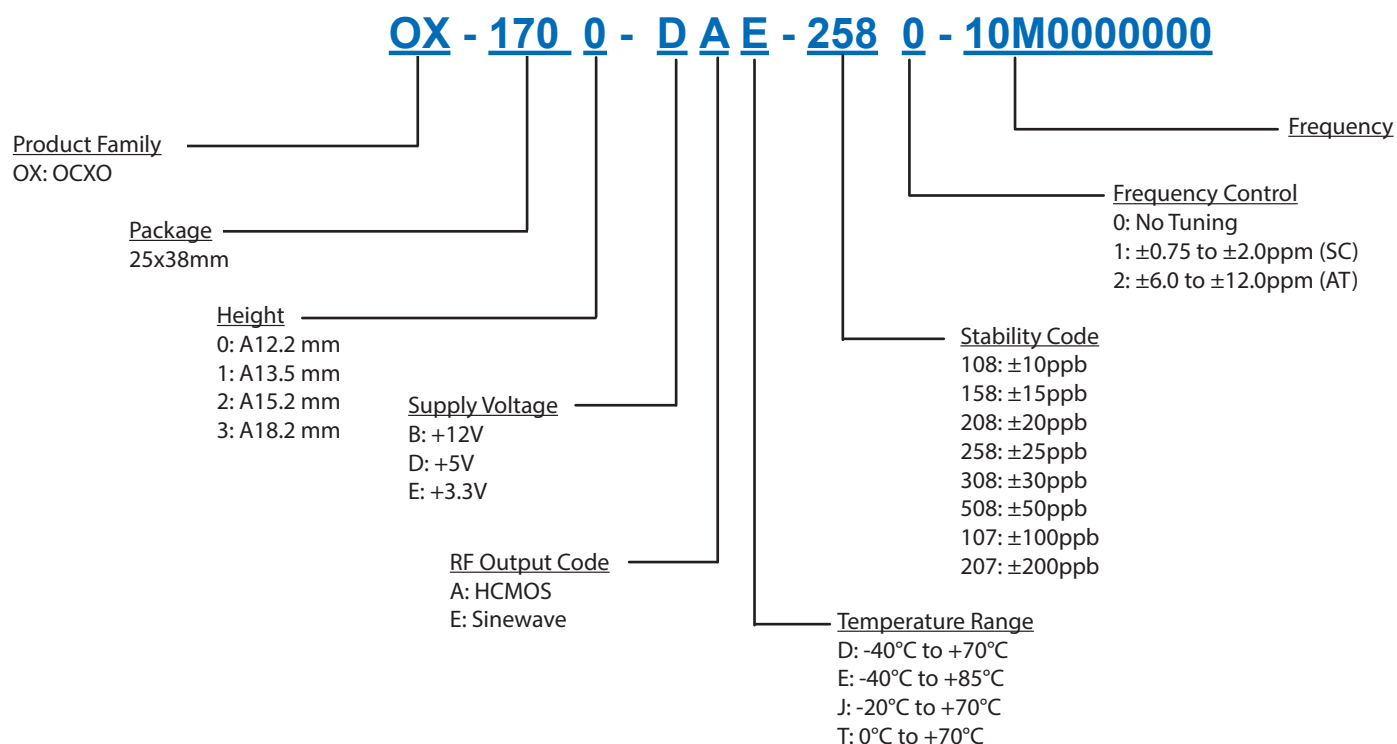
Type A

Code	Height "H"	Pin Length "L" Min
0	12.2	4.5
1	13.5	4.5
2	15.2	4.5
3	18.2	4.5

Pin Connections

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

Ordering Information



Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Unless other 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.

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