OX1410 Series

OCXO, Sine wave, HCMOS, 25.6 x 22.2 x 14.0mm

- High stability SMD OCXO
- Unit weight: 15gm max
- RoHS compliant

Output characteristics			
Parameter	**Specification**		**Remarks/Test condition**
Frequency range	5.0MHz ~ 125.0MHz		Standard: 10MHz, 20MHz, 40MHz, 100MHz
Supply voltage (Vs)	3.3V typical		Min: 3.15V, Max: 3.45V
	5.0V typical		Min: 4.75V, Max: 5.25V
	12.0V typical		Min: 11.4V, Max: 12.6V
Reference voltage VREF output	3.0V		For Vs = 3.3V
	4.0V		For Vs = 5.0V
	5.0V		For Vs = 12.0V
Warm-up current consumption	800.0mA max		Vs = 3.3V
	600.0mA max		Vs = 5.0V
	300.0mA max		Vs = 12.0V
Steady state current consumption @25°C	300.0mA max		Vs = 3.3V
	200.0mA max		Vs = 5.0V
	100.0mA max		Vs = 12.0V
RF output			
Output waveform	Sine wave	HCMOS	
Output load	50.0Ω	15.0pF	±10%
Output level	Min: +3.0dBm	-	
Harmonics	-25.0dBc max	-	
Duty cycle	-	40%/60%'	@ Vs/2
Rise/Fall time	-	5.0ns	@ 10% ~ 90% Vs
Warm-up time at +25°C	3.0 minute typical, 5.0 minute max		Δf final/ fnominal < ±0.1ppm
Phase noise	Contact factory		
Frequency stability			
Initial tolerance	±300.0ppb max		At +25°C, Vc @ centre value
vs Operating temperature range	±5.0ppb ~ ±200.0ppb		Table 1
vs Supply voltage variation	±10.0ppb max		Vs ± 5%
vs Load change	±10.0ppb max		RL ± 10%
Long term aging/day	AT-cut: ±10.0ppb max ||SC-cut: ±2.0ppb max		After 30 days operation
Long term aging 1st year	AT-cut: 300.0ppb typical, ±500.0ppb max SC-cut: 50.0ppb typical, ±200.0ppb max		After 30 days operation
Frequency adjustment range			
Electronic frequency control (EFC)	AT-cut: ±2.0ppm min, ±5.0ppm max SC-cut: ±0.8ppm min		
EFC voltage Vc	Vref/2 ± Vref/2		
EFC slope	Positive		
EFC input impedance	100.0kΩ min		
Absolute maximum ratings			
Supply voltage Vs	Min: - 0.5V	Max: Vs + 10%	Vs to GND
Control voltage Vc	Min: -0.5V	15V	Vc to GND
Storage temperature	-55°C ~ +125°C		

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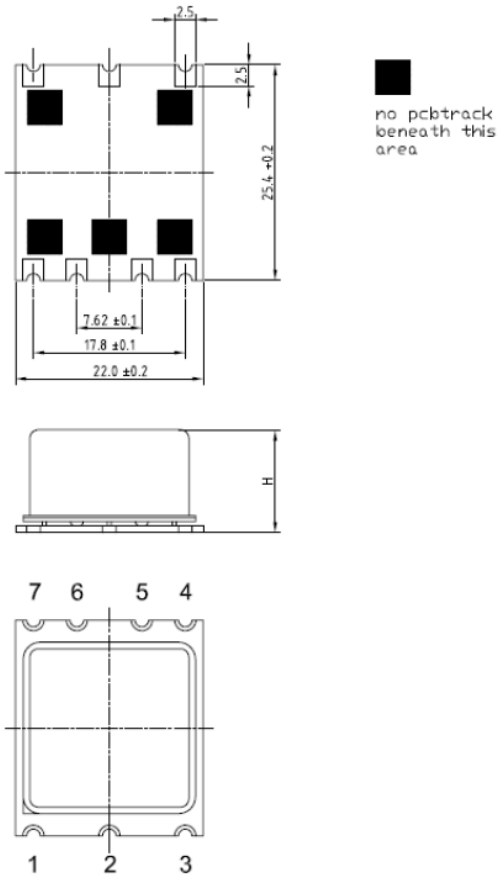
Table 2: Frequency stability vs operating temperature range						
Temperature (°C)	**±5.0ppb**	**±10.0ppb**	**±25.0ppb**	**±50.0ppb**	**±100.0ppb**	**±200.0ppb**
0°C ~ +50	SC-cut √	SC-cut √	SC-cut √	AT-cut √	AT-cut √	AT-cut √
-10°C ~ +60	SC-cut √	SC-cut √	SC-cut √	AT-cut √	AT-cut √	AT-cut √
-20°C ~ +70	SC-cut √	SC-cut √	SC-cut √	SC-cut √	AT-cut √	AT-cut √
-30°C ~ +70	Enquire	SC-cut √	SC-cut √	SC-cut √	SC-cut √	AT-cut √
-40°C ~ +75	Enquire	Enquire	SC-cut √	SC-cut √	SC-cut √	SC-cut √
-40°C ~ +85	Enquire	Enquire	SC-cut √	SC-cut √	SC-cut √	SC-cut √
-55°C ~ +85	X	Enquire	Enquire	SC-cut √	SC-cut √	SC-cut √

Mechanical dimensions and Pin functions



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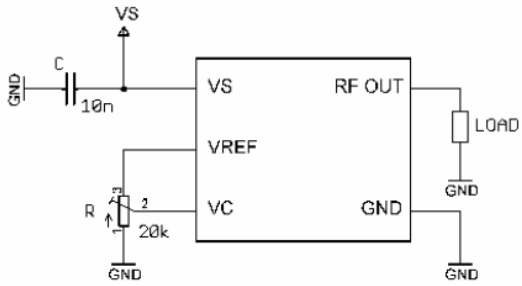
Pin connections

Pin #	Symbol	Function
1	V_C	Control Voltage (EFC)
2	VREF	Reference Voltage
3	V_S	Supply Voltage
4	RF OUT	RF Output
5	N.C.	No Connection
6	N.C.	No Connection
7	GND	Ground



ACT part number

ACT will provide a unique part number with full specification based on your requirements, please provide the following details.

ACT series	Frequency (MHz)	Supply voltage (V)	Output type	Frequency stability (ppb)	Operating temperature range (°C)
OX1410					

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Table 3: Environmental conditions						
Test	**IEC60068 part...**	**IEC 60679-1 Clause**	**MIL-STD-202G Method**	**MIL-PRF-810F Method**	**MIL-PRF-55310D Clause**	**Test conditions (IEC)**
Sealing tests (if applicable)	2-17	5.6	112E		3.6	Gross leak: Test QC, Fine leak : Test QK
Solderability resistance to soldering heat	2-20 2-58	5.6	208H 210F		3.6.52 3.6.48	Test Ta Method 1 Test Td1 Method 2 Test Td2 Method 2
Shock	2-27	5.6.8	213B	516.4	3.6	Test Ea, 3 x per axes 100g, 6 ms half sine pulse
Vibration,sinusoidal	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axes, 10Hz - 55Hz 0, 75mm; 55Hz-2kHz, 10g
Vibration, random	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance Tests -Ageing - extended aging		5.7.1 5.7.2	108A		4.8	30 days @ 85°C, OCXO @ 25°C 1000h, 2000h, 8000h @ 85°C

Drawing control: (Internal use only)
Issue number: 1
Date: 01/06/2017
Internal reference: O1