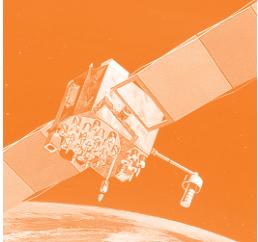


Features

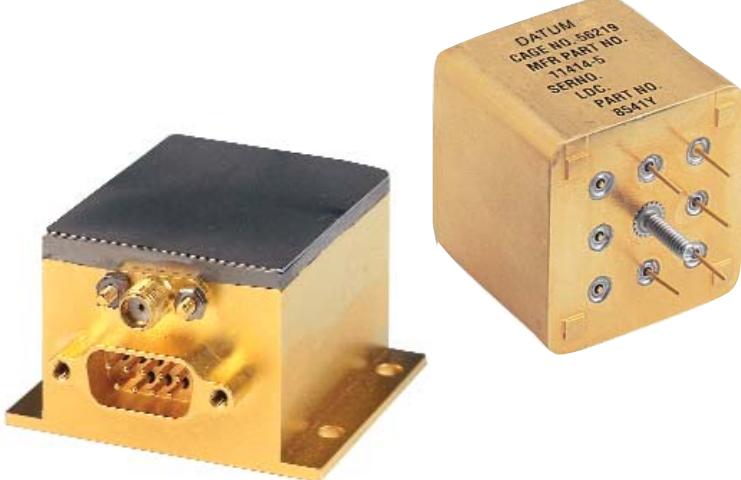
Output Frequency:	60 MHz - 100 MHz
Fast warm up:	5 Min. from -30° C
Low power consumption:	1.7W @ 25° C (Vacuum)
Compact sizes	
Typical:	1.33" x 1.33" x 1.31"
Optional:	1.7" x 1.5" x 1.0"
Frequency Aging @ 100 MHz:	2E-6/year
Temperature Coefficient:	± 5E-7
Low Acceleration Sensitivity:	<8E-10/g Typical
Temperature Range:	-30° C to +70° C
Component Quality:	B-level military std.



HIGH REL/SPACE PRODUCTS

Caesium and Quartz Products

9800 Series Hi-Reliability VHF Oscillators



Overview

The 9800 is an ultra-miniature ovenized crystal oscillator that provides high stability RF sine wave output.

The use of hybrid circuitry allows for the greatest reduction in size possible without compromise of the performance or reliability.

Assembly is performed by skilled operators certified to NASA approved workmanship standards. Hybrid circuits are produced at facilities qualified to MIL-PRF-38534C. All discrete components are manufactured and tested to B-level standards.

The environmentally rugged 9800 features an SC-cut quartz resonator and sustaining electronics that are controlled at a precise temperature to achieve temperature insensitive performance, excellent phase noise and aging characteristics.

High-end crystal oscillator precision is required for both time and frequency in a wide variety of applications including:

- Radio navigation
- Radar Warning Receiver
- Satellite transmission
- Satellite tracking and guidance

The 9800 is the obvious choice where a combination of excellent spectral purity, and long term stability is essential. It contributes to simplification of system design because of low frequency aging which extends the period of time needed between synchronization.

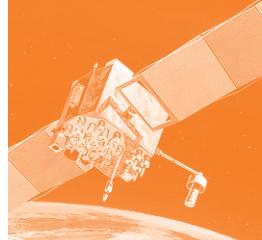
This rugged, compact crystal oscillator is especially advantageous when utilized in mobile transportable and portable applications where fast warm-up, low power consumption and small size are required.



datum

Timing, Test & Measurement

9800 Series Hi-Reliability VHF Oscillators



Specifications

Output level/load	7.0 dBm, min./50 Ω	Physical	
Frequency Aging Per Year	2E-6	Size	1.9" x 1.5" x 1.0"
		Weight	6.5 ounces
		Volume	2.25 cu inches
		Operating Temp. Range	-30° C to +70° C
Phase Noise @ 100 MHz		Storage Temp. (Non-op)	-55° C to +100° C
Offset Frequency	<u>L(f)</u>	Acceleration Sensitivity	
1 Hz	-60 dBc/Hz	Typical	8E-10 per g
10 Hz	-90 dBc/Hz	Random Vibration	20 Grms
100 Hz	-120 dBc/Hz	Radiation	100K Rad
1 KHz	-150 dBc/Hz	EMI/EMC specification	For performance levels contact the factory
10 KHz	-160 dBc/Hz		MIL-HDBK-217E
100 KHz	-166 dBc/Hz		>6 million hours
Frequency vs Temp	± 5E-7	Reliability Specification	
Harmonic Distortion	-30 dBc	MTBF	
Non-Harmonic Distortion	-90 dBc		
Frequency Retrace (After up to 24 hrs. Off & 1 hours use at @25° C)	± 1E-8		
Input Voltage			
Range	15 to 18 V dc		
Sensitivity	1E-7, ±5%		
Power, Steady State	1.7 Watts @25° C Vacuum		
Warm-Up Power	5 Watts		
Load Change Sensitivity	± 5E-8, ±5%		
Warm-Up Time from -40° C	5 minutes to 2E-8*		
Elec. Freq. Cont. Range (EFC)	± 10ppm		
EFC Voltage Input	-10 TO +10Vdc, (-) Sensing		

*Fast warm-up option available

HIGH REL/SPACE PRODUCTS
Caesium and Quartz Products

Specifications subject to change without notice.