ELECTRICAL CHARACTERISTICS

Nominal Frequency	10 to 40 MHz
Initial Frequency Accuracy @+25°C with the Control Voltage @ +2.50 VDC	±20 PPM
Temperature Stability including ±10% Load Change and ±5% Input Voltage change	See Table I
Input Voltage	+5Vdc ± 5% 25 mA max
RF Output	CMOS Squarewave
Duty Cycle	40 / 60%measured at 50% amplitude level
Logic '0'	0.5 V MAX
Logic '1'	4.0 V MIN
Rise Time	5 nsec max measured from 10% to 90% levels
Fall Time	5 nsec measured from 90% to 10% levels
Load	Tested with 2 CMOS Loads but capable of driving up to 10.
Voltage Control Function	
Control Voltage Range	0.50 to 4.50 VDC
Frequency Deviation (with respect to nominal frequency)	See Table I
Linearity	±20% maximum
Input Impedance	>10KΩ
Aging: 10 to 25 MHz 26 to 40 MHz	±2 PPM 1st year & ±10 PPM for 10 years ±3 PPM 1st year & ±15 PPM for 10 years

ABSOLUTE MAXIMUM RATINGS

Supply Voltage	-0.5 to +6.00 VDC
DC Input Current	50 mA maximum
Storage Temperature range	-62°C to +125°C
Lead Temperature (Soldering, 10 seconds)	300°C

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ENVIRONMENTAL CHARACTERISTICS

Sine Vibration	Mil-STD-202, Method 204, TC "D"
Random Vibration	Mil-STD-202, Method 214 TC "I-K" (15 minutes per axis)
Shock	Mil-STD-202, Method 213, TC "F"
Acceleration	Mil-STD-883, Method 2001, TC "A"
Altitude	50,000 feet minimum to deep space
Radiation	Radiation testing is not performed, but these VCXOs have been acceptable for use in environments up to 100K rads by analysis of the components used. They are assembled with all bipolar semiconductors with the exception of the ACMOS chip used for the CMOS output which is purchased from a wafer that has been tested to a minimum of 100K rads total dose. A copy of the parts list and materials can be provided for review.

TABLE I

FREQUENCY STABILITY and FREQUENCY DEVIATION OPTIONS

These limits guarantee that under the worse case conditions of temperature, supply voltage, load stability and 10 years aging, that the oscillator can be pulled back on to nominal frequency with the Control Voltage function.

OPTION	FREQUENCY STABILITY	FREQUENCY DEVIATION
A	±20 PPM 0°C to +50°C	±65 PPM minimum
B	±25 PPM -20°C to +70°C	±70 PPM minimum
C	±30 PPM -40°C to +85°C	±75 PPM minimum
D	±40 PPM -55°C to +105°C	±85 PPM minimum

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TABLE II

CONSTRUCTION, SCREENING & TESTING OPTIONS

NOTE: For Engineering or Prototype VCXOs requiring basic electrical testing only and no Screening, or Groups 'A' and 'B' Testing, use the code letter 'E'.

Option Code / Operation	S	R	C	B
Design, Construction & Component Screen (see Mfging Section)	Mil-PRF-55310 Class 'S'	Mil-PRF-55310 Class 'B'	Mil-PRF-55310 Class 'B'	Mil-PRF-55310 Class 'B'
Workmanship	M883, Method 2017 for Class 'S'	M883, Method 2017 for Class 'B'	M883, Method 2017 for Class 'B'	M883, Method 2017 for Class 'B'
Screening	Mil-PRF-55310 Class 'S'	Mil-PRF-55310 Class 'S'	Mil-PRF-55310 Class 'B' modified	Mil-PRF-55310 Class 'B'
Non-Destruct Wire Bond Pull	100%	100%	N/A	N/A
Internal Visual	M883, Method 2017 for Class 'S'	M883, Method 2017 for Class 'B'	M883, Method 2017 for Class 'B'	M883, Method 2017 for Class 'B'
Stabilization Bake	48 hrs minimum @ +150°C	48 hrs minimum @ +150°C	48 hrs minimum @ +150°C	48 hrs minimum @ +150°C
Thermal Shock	M883, Method 1011, TC 'A'	M883, Method 1011, TC 'A'	N/A	N/A
Temperature Cycling	M883, Method 1010, TC 'B'	M883, Method 1010, TC 'B'	M883, Method 1010, TC 'B'	M883, Method 1010, TC 'B'
Constant Acceleration	M883, Method 2001, TC 'A' (5000 gs, Y1 Axis only)	M883, Method 2001, TC 'A' (5000 gs, Y1 Axis only)	M883, Method 2001, TC 'A' (5000 gs, Y1 Axis only)	M883, Method 2001, TC 'A' (5000 gs, Y1 Axis only)
Seal Test (fine & gross)	100%	100%	100%	100%
PIND	M883, Method 2020, TC 'B'	M883, Method 2020, TC 'B'	M883, Method 2020, TC 'B'	N/A
Electrical Test Frequency, Output levels, Input Current	@ +25°C only	@ +25°C only	@ +25°C only	@ +25°C only
Burn-In (Powered with load)	+125°C for 240 hours	+125°C for 240 hours	+125°C for 160 hours	+125°C for 160 hours
Electrical Test Frequency, Output levels, Input Current	@ +25°C & Temp Extremes specified in Table II	@ +25°C & Temp Extremes specified in Table II	@ +25°C & Temp Extremes specified in Table II	@ +25°C & Temp Extremes specified in Table II
PDA	2% applies to Input Current @ +25°C	2% applies to Input Current @ +25°C	10% applies to Input Current @ +25°C	10% applies to Input Current @ +25°C
Radiographic	M883, Method 2012	M883, Method 2012	N/A	N/A
Group 'A'	100%	100%	Sample per Mil-PRF-55310	Sample per Mil-PRF-55310
Group 'B' (30 day Aging @ +70°C)	100%	100%	Sample per Mil-PRF-55310	Sample per Mil-PRF-55310

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MANUFACTURING INFORMATION

TRAVELLERS

Travellers or Process Cards are used in the manufacturing and testing of all of the 1794 Series VCXOs and are available for customer review. Copies of these Travellers can be provided with the VCXOs at time of shipment if so specified on the purchase order.

TRACEABILITY and HOMOGENEOUS MATERIAL
Option Codes 'S' & 'R' only

Manufacturing lot and date code information shall be recorded, by VCXO serial number, of every component and all materials used in the manufacture of that VCXO. Also all semiconductors used in the manufacture of any given Production Lot of VCXOs, shall be from the wafer and have the same manufacturing lot date code. A Production Lot, as defined by Corning, is all oscillators that have been kitted and assembled as a single group. After the initial kitting and assembly, this Production Lot may be divided into multiple sublots to facilitate alignment and test capacity and may be sealed at multiple times within a 13 week window.

TEST DATA

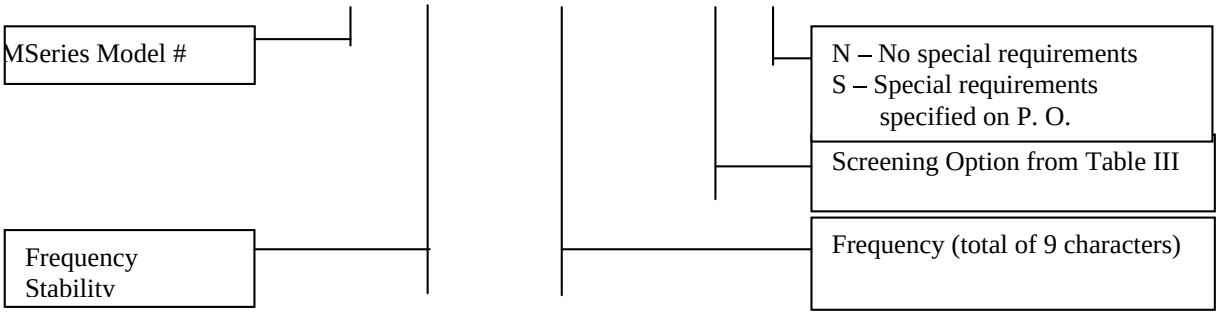
All Test Data is recorded by VCXO serial number. Copies of this data can be provided with the VCXOs at time of shipment if so specified on the purchase order.

REWORK

All rework follows the requirements of Mil-PRF-55310 Class 'S' for Option Code 'S' and Class 'B' for Option Codes 'R', 'B' and 'C'. The only exception is the Select-At-Test components may be replaced up to four times.

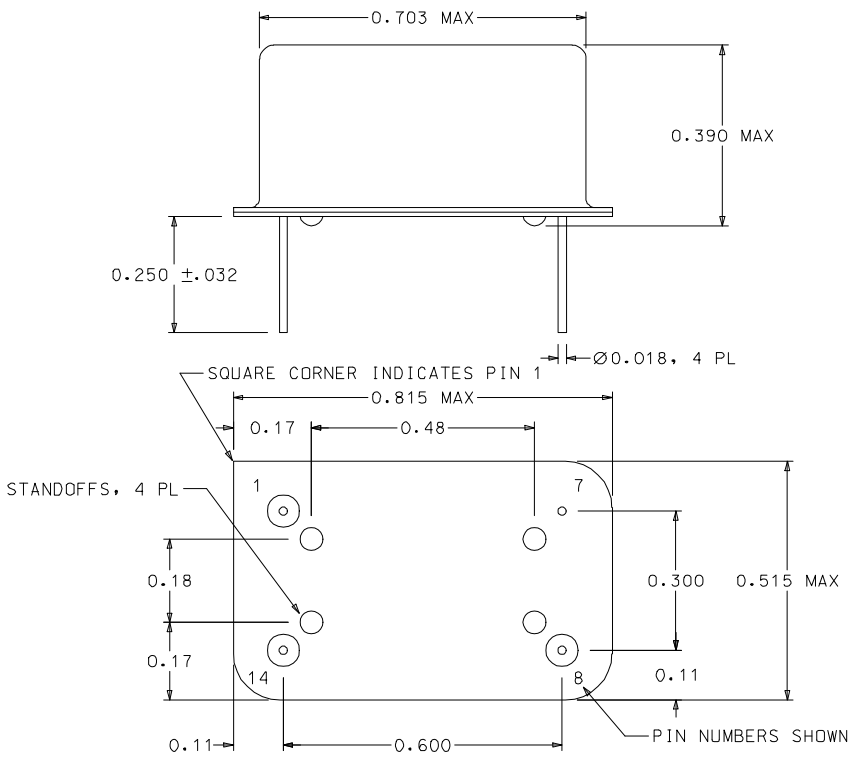
PART NUMBER BREAKDOWN

1794 E 25M000000 S N



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Mechanical Outline and Pin Connections



PIN FUNCTIONS
1. EFC
7. GROUND
8. OUTPUT
14. Vcc

TOLERANCE: XX=±.01 XXX=±.005

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