





ELECTRICAL CHARACTERISTICS 10 to 40 MHz Nominal Frequency Initial Frequency Accuracy ±20 PPM @+25°C with the Control Voltage @ +2.50 VDC Temperature Stability including ±10% Load See Table I Change and ±5% Input Voltage change 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 Tested with 2 CMOS Loads but capable of driving up Load to 10. Voltage Control Function **Control Voltage Range** 0.50 to 4.50 VDC Frequency Deviation See Table I (with respect to nominal frequency) Linearity ±20% maximum Input Impedance >10KΩ

ABOLUTE MAXIMUM RATINGS

26 to 40 MHz

Aging: 10 to 25 MHz

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

Revision Date : 6-14-05 SEM

±2 PPM 1st year & ±10 PPM for 10 years

±3 PPM 1st year & ±15 PPM for 10 years





ENVIRONMENTAL O	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 IFREQUENCY STABILITY andFREQUENCY 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
В	±25 PPM -20°C to +70°C	±70 PPM minimum
С	±30 PPM -40°C to +85°C	±75 PPM minimum
D	±40 PPM -55°C to +105°C	±85 PPM minimum







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'.

D resuitg, use	the code letter E.			
Option Code Operation	S	R	С	В
	M(1 DDE 55210	M(1 DDE 55210	M1 DDE 55210	M(1 DDE 55210
Design, Construction	Mil-PRF-55310	Mil-PRF-55310	Mil-PRF-55310	Mil-PRF-55310
& Component Screen	Class 'S'	Class 'B'	Class 'B'	Class 'B'
(see Mfging Section)			1000 N. 1 10017	N002 N 4 12017
Workmanship	M883, Method 2017	M883, Method 2017	M883, Method 2017	M883, Method 2017
~ .	for Class 'S'	for Class 'B'	for Class 'B'	for Class 'B'
Screening	Mil-PRF-55310	Mil-PRF-55310	Mil-PRF-55310	Mil-PRF-55310
	Class 'S'	Class 'S'	Class 'B' modified	Class 'B'
Non-Destruct Wire Bond Pull	100%	100%	N/A	N/A
Internal Visual	M883, Method 2017	M883, Method 2017	M883, Method 2017	M883, Method 2017
	for Class 'S'	for Class 'B'	for Class 'B'	for Class 'B'
Stabilization Bake	48 hrs minimum @	48 hrs minimum @	48 hrs minimum @	48 hrs minimum @
	+150°C	+150°C	+150°C	+150°C
Thermal Shock	M883, Method 1011,	M883, Method	N/A	N/A
Therman Shoek	TC 'A'	1011, TC 'A'	1.0/11	10/11
Temperature Cycling	M883, Method 1010,	M883, Method	M883, Method 1010,	M883, Method 1010,
Temperature Cyching	TC 'B'	1010, TC 'B'	TC 'B'	TC 'B'
Constant Acceleration	M883, Method 2001,	M883, Method	M883, Method 2001,	M883, Method 2001,
Constant Acceleration	TC 'A' (5000 gs, Y1	2001, TC 'A' (5000	TC 'A' (5000 gs, Y1	TC 'A' (5000 gs, Y1
	Axis only)	gs, Y1 Axis only)	Axis only)	Axis only)
Seal Test	100%	100%	100%	100%
	100%	100%	100%	100%
(fine & gross)	M002 M (1 12020	N002 N (1 1	M002 M (1 1 2020	NT / A
PIND	M883, Method 2020,	M883, Method	M883, Method 2020,	N/A
	TC 'B'	2020, TC 'B'	TC 'B'	
Electrical Test	@ +25°C only	@ +25°C only	@ +25°C only	@ +25°C only
Frequency, Output				
levels, Input Current				
Burn-In	+125°C for 240	+125°C for 240	+125°C for 160 hours	+125°C for 160 hours
(Powered with load)	hours	hours		
Electrical Test	@ +25°C & Temp	@ +25°C & Temp	@ +25°C & Temp	@ +25°C & Temp
Frequency, Output	Extremes specified	Extremes specified	Extremes specified	Extremes specified
levels, Input Current	in Table II	in Table II	in Table II	in Table II
PDA	2% applies to Input	2% applies to Input	10% applies to Input	10% applies to Input
	Current @ +25°C	Current @ +25°C	Current @ +25°C	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
				WIII T KI 55510
Group 'B'	100%	100%	Sample per	Sample per
Group 'B' (30 day Aging @	100%	100%	Sample per Mil-PRF-55310	

Revision Date : 6-14-05 SEM







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

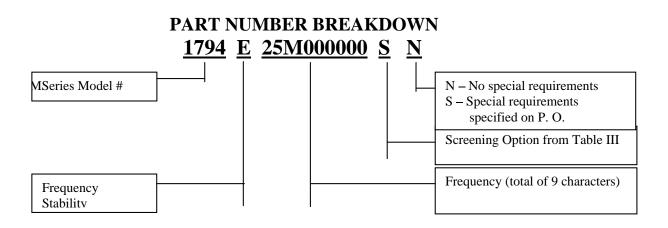
Manufacturing lot and date code information shall be recorded, by VCXO serial number, of every component and all materials used in the manufacture of that VCXO. Also all semiconductors used in the manufacture of any given Production Lot of VCXOs, shall be from the wafer and have the same manufacturing 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.



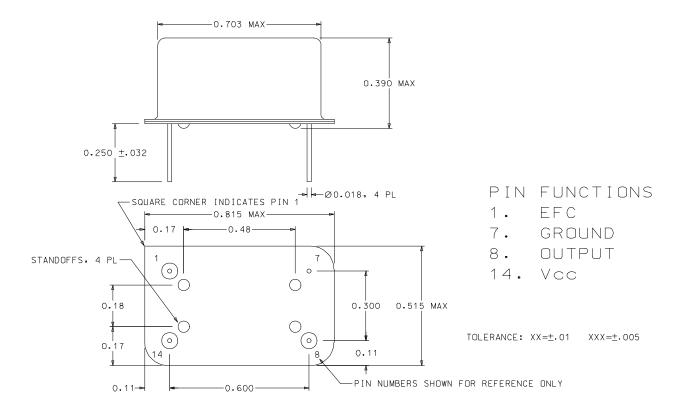
Revision Date : 6-14-05 SEM



1794 Series



Mechanical Outline and Pin Connections



Revision Date : 6-14-05 SEM