

VCXO Products

Automated Production Testing

Introduction

VI performs an extremely aggressive screening procedure on 100% of all VCXO products manufactured in the Hudson, NH facility. This

screening is performed on VI's V-Type, S-Type, J-Type and R-Type VCXO products.

Room Temperature Screening

The first level of screening is a room temperature, high speed, automated screening to verify the over-all integrity of the VCXO performance. The

specific tests performed on our standard products are outlined in the table below.

Test Name	Test Description
Frequency	Frequency @ $V_C = V_{DD}/2$
Start Delay	Power On to Nominal Oscillation Frequency
Level Shift	TTL/CMOS Duty Cycle Adjust Check
Low Pull	Frequency Pull from f_0 at $VC = 0.1 * V_{DD}$
High Pull	Frequency Pull from f_0 at $VC = 0.9 * V_{DD}$
Tri-State	Tri-State Switching Threshold
TTL Duty Cycle	Duty Cycle of the Output Signal at TTL Levels, 1.4 V Switching Level
CMOS Duty Cycle	Duty Cycle of the Output Signal at CMOS Levels, 2.5 V Switching Level
Rise Time	Rise Time of the Output Signal
Fall Time	Fall Time of the Output Signal
Glitch High	Screen for Output High Signal Integrity
Glitch Low	Screen for Output Low Signal Integrity
By Pass Capacitance	Capacitance of Internal Power Supply Bypass

In addition to these standard tests, additional tests can be added to ensure compliance with special customer requirements. The most

common among these special tests are linearity and initial accuracy screens.

Temperature Testing

In addition to room temperature screening, VI also performs 100% testing of Start-Up Delay and Pull High and Pull Low tests over the operating temperature range of the device. Parameters are tested at operating temperature extremes as well as at intermediate temperature points. For

example a VCXO with a -40 to 85°C operating temperature range is continuously tested over -40 to 85°C with soak points at 25°C, 85°C, 60°C, 0°C and -40°C. This provides an added measure of device integrity verification.

For Additional Information Please Contact:

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