

Technical Data

S1550 Series



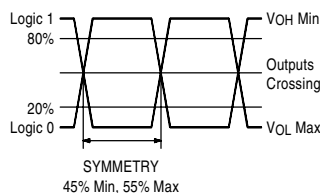
Description

A voltage controlled crystal oscillator designed primarily for use in phase locked loops, phase shift keying, ATM, SDH and network/switch applications. Output is Motorola 10KH compatible. Device is packaged in a 14-pin DIP compatible, resistance welded package. Case is grounded to Pin 7 to reduce EMI.

Applications & Features

- Positive supply voltage ECL (PECL) ~ Complementary outputs
- Wide frequency range from 38.88 MHz to 155.52 MHz using SaRonix fundamental crystals for exceptional jitter performance
- ± 50 or ± 100 ppm minimum APR*
- Covers wide range of telecommunication applications
- Other features such as enable/disable and negative supply are available in this series, consult factory

Output Waveforms



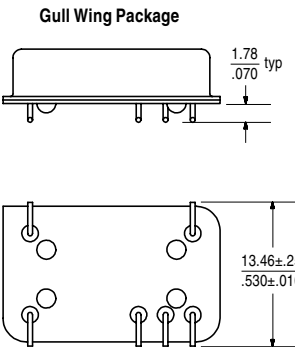
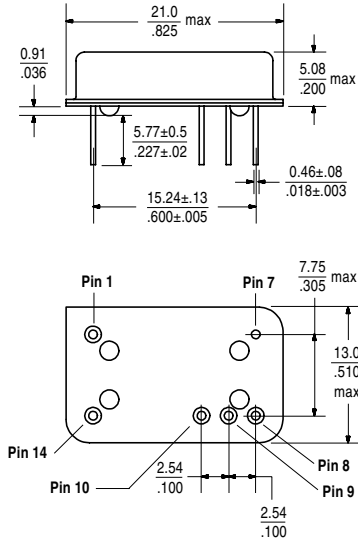
Frequency Range:	38.88 MHz to 155.52 MHz
Frequency Stability:	± 20 , ± 25 , ± 50 , or ± 100 ppm over all conditions: operating temperature, supply voltage change, load change, calibration tolerance, shock and vibration.
Aging @ 25°C:	± 3 ppm max per year, ± 7 ppm max over 10 years
Temperature Range:	Operating: 0°C to +70°C or -40°C to +85°C Storage: -55°C to +125°C
Supply Voltage (VCC):	+5.0V $\pm 5\%$
Supply Current:	70mA typ, 100mA max
Output Drive:	Symmetry: 45/55% max @ outputs crossing Rise & Fall Times: 1.2ns T _r max & 1.7ns T _f max, 20% to 80% of output waveform Logic 0: VCC -1.60 max Logic 1: VCC -1.02 min Load: 50Ω to VCC -2V (all outputs require termination) Jitter: 3.5ps max RMS period jitter
Pull Characteristics:	Input Impedence (Pin 1): 50KΩ min Frequency Response (-3dB): 10 kHz min Pullability: ± 50 or ± 100 ppm min APR* (VC = +2.5 ± 2 V) Control Voltage: +0.5V to +4.5V Linearity: 10% max Transfer Function: Frequency increases when control voltage increases
Mechanical:	Shock: MIL-STD-202, Method 213, Condition F Solderability: MIL-STD-883, Method 2003 Terminal Strength: MIL-STD-202, Method 211, Conditions A & C Vibration: MIL-STD-883, Method 2007, Condition A Solvent Resistance: MIL-STD-202, Method 215 Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition A, B or C (I or J for Gull-wing)
Environmental:	Gross Leak Test: MIL-STD-883, Method 1014, Condition C Fine Leak Test: MIL-STD-883, Method 1014, Condition A2 Thermal Shock: MIL-STD-883, Method 1011, Condition A Moisture Resistance: MIL-STD-883, Method 1004

* APR = (VCXO Pull relative to specified Output Frequency) – (VCXO Frequency Stability)

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Package Details

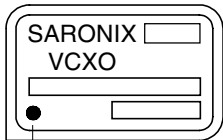


Pin Functions:

- Pin 1: Control Voltage
- Pin 7: GND / Case
- Pin 8: Q Output
- Pin 9: \bar{Q} Output
- Pin 10: N/C
- Pin 14: Supply Voltage

Marking Format **

Includes Date Code, Frequency & Model

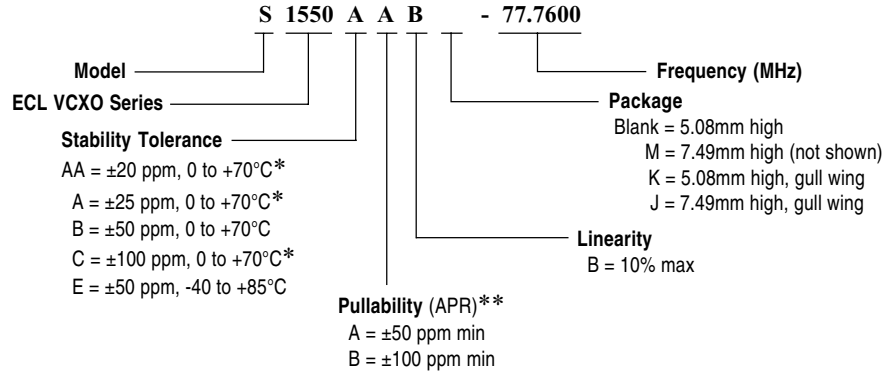


Denotes Pin 1

** Exact location of items may vary

Scale: None (Dimensions in $\frac{\text{mm}}{\text{inches}}$)

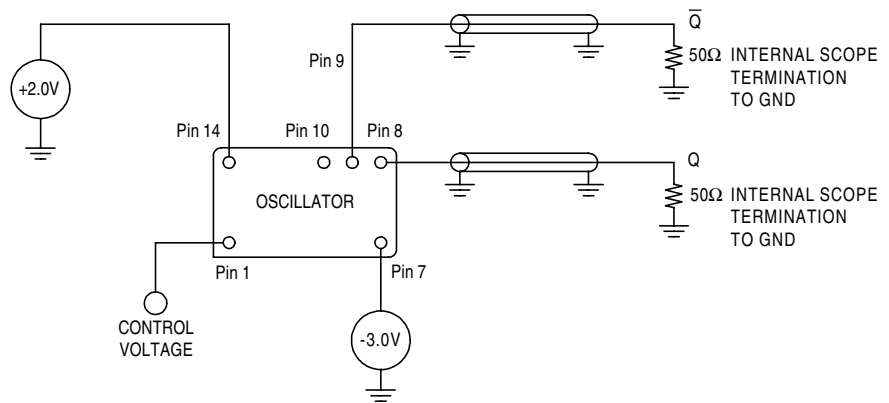
Part Numbering Guide



* A pullability only

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Test Circuit



All specifications are subject to change without notice.