

Technical Data

S1554 Series



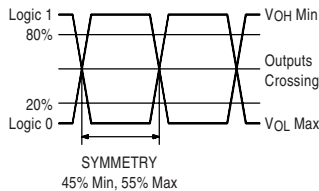
Description

A voltage controlled 5V PECL crystal oscillator designed primarily for use in phase locked loops, Sonet, ATM, SDH and Network/Switch applications. Complementary outputs are Motorola 10KE compatible and can be enabled/disabled. Device is packaged in a 14-pin DIP compatible, resistance welded package with case grounded to Pin 7 to reduce EMI. True SMD DIL versions for IR reflow are available, select option "S" or "U" in part number builder. See separate data sheet for SMD package dimensions

Applications & Features

- Telecom
- ~ Networking
- ~ ATM, SDH, SONET
- Switch Applications
- Phased Locked Loops
- ~ Output Enable/Disable Feature
- Complementary Output
- Wide frequency range from 70 MHz to 155.52 MHz using SaRonix fundamental crystals for exceptional jitter performance
- ~ ±50 or ±100ppm minimum APR*

Output Waveforms



Frequency Range:	70 MHz to 155.52 MHz
Frequency Stability:	±20, ±25, or ±50 ppm over all conditions: operating temperature, supply voltage change, load change, calibration tolerance, aging**, shock and vibration. **5 years @ 40°C ambient operating temperature range
Temperature Range:	Operating: 0 to +70°C, 0 to +85°C, -40 to +85°C Storage: -55°C to +105°C
Supply Voltage (VCC):	5V ±5%
Supply Current:	65mA typ, 70mA max
Output Drive:	Symmetry: 45/55% max @ 50% waveform Rise & Fall Times: 550ps max @ 20 to 80% waveform Logic 0: VCC -1.620 max Logic 1: VCC -1.025 min Load: 50Ω to VCC -2V (output requires termination) Period Jitter RMS: 3.5ps max
Pull Characteristics:	Input Impedence (Pin 1): 50KΩ min Frequency Response (-3dB): 10kHz min Pullability: ±50 or ±100ppm min APR* Control Voltage: 0.5V to 4.5V Transfer Function: Frequency increases when control voltage increases Monotonic Linearity: 10% Center Control Voltage: 2.5V Output Enable Voltage (Pin 3): ≤ VCC -1.475V or open Disable Voltage: ≥ VCC -1.165V (output disabled to a fixed level of Logic 0)

Mechanical:

Shock:	MIL-STD-883, Method 213, Condition F
Solderability:	MIL-STD-883, Method 2003
Terminal Strength:	MIL-STD-883, Method 2004, Conditions B2
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 B (I or J for Gull-wing)

Environmental:

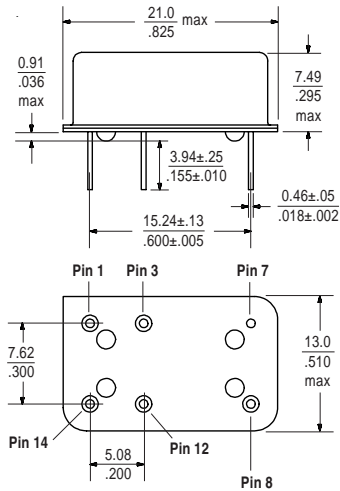
Gross Leak Test:	MIL-STD-883, Method 1014, Condition C
Fine Leak Test:	MIL-STD-883, Method 1014, Condition A2
Thermal Shock:	MIL-STD-883, Method 1011, Condition A
Moisture Resistance:	MIL-STD-883, Method 1004

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

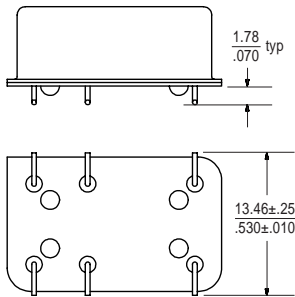
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Package Details



Gull Wing Package

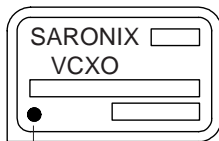


Pin Functions:

- S1554
 Pin 1: Control Voltage Pin 8: Q Output
 Pin 3: Enable Pin 12: Q Output
 Pin 7: GND / Case Pin 14: Supply Voltage

Marking Format **

Includes Date Code, Frequency & Part Number

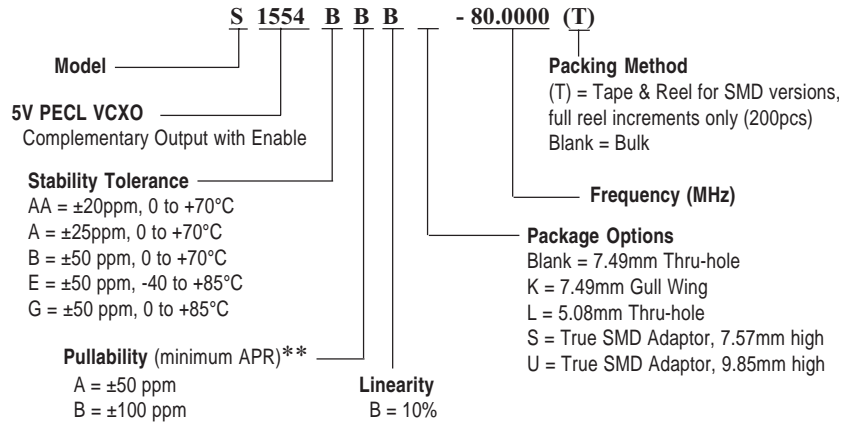


Denotes Pin 1

**Exact location of items may vary

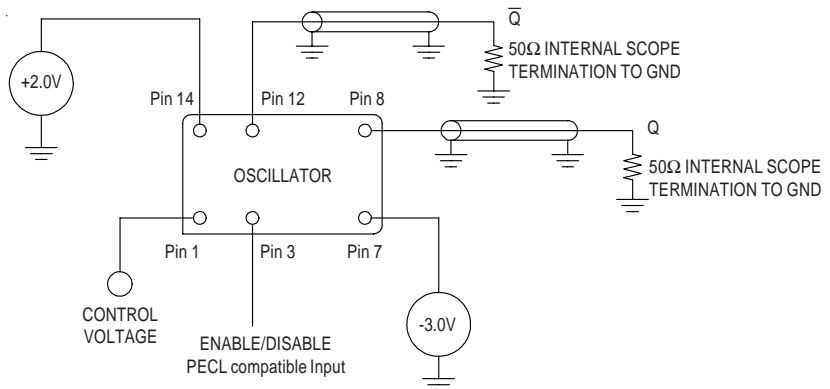
Scale: None (Dimensions in $\frac{\text{mm}}{\text{inches}}$)

Part Numbering Guide



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

Test Circuit

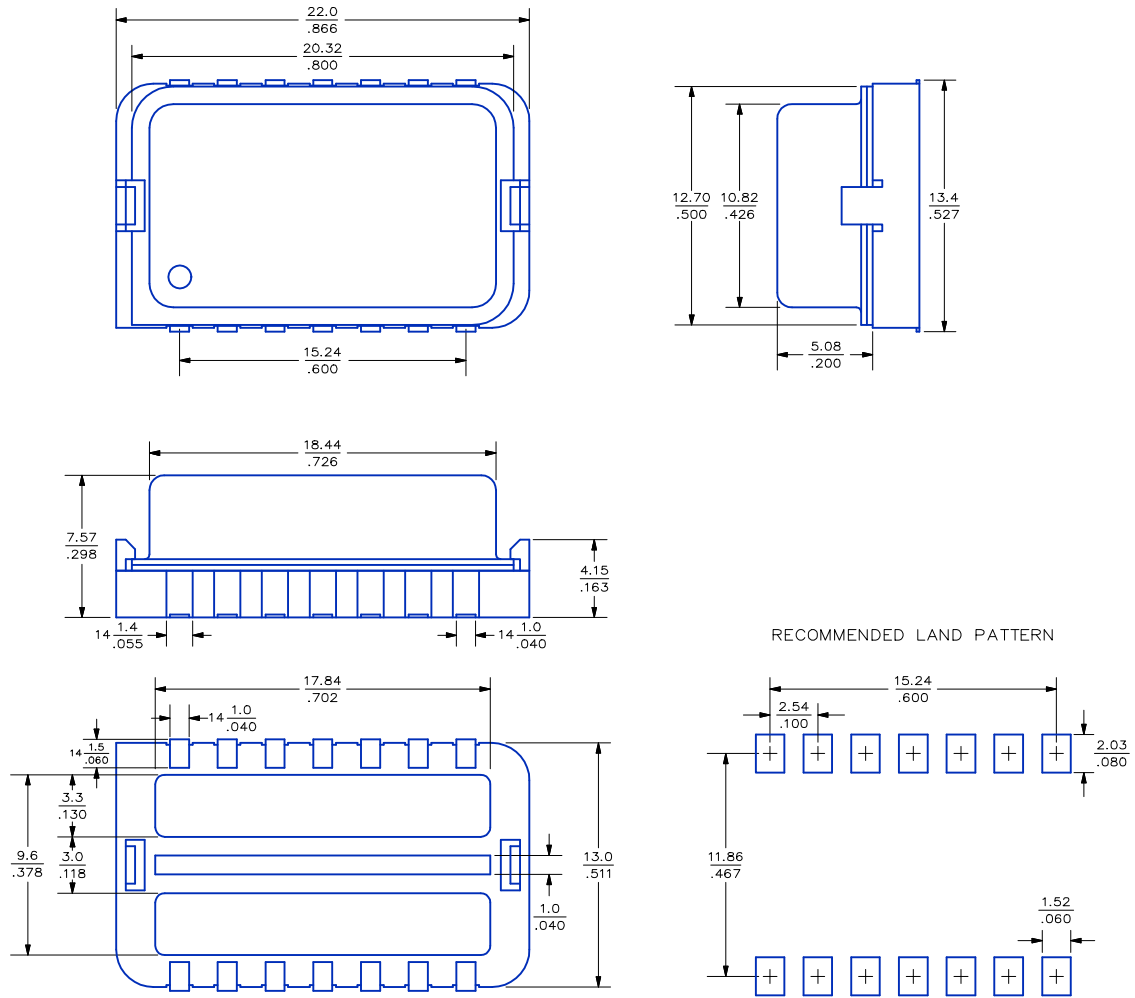


All specifications are subject to change without notice.

DS-195 REV B

True SMD Adaptor - 7.57mm High

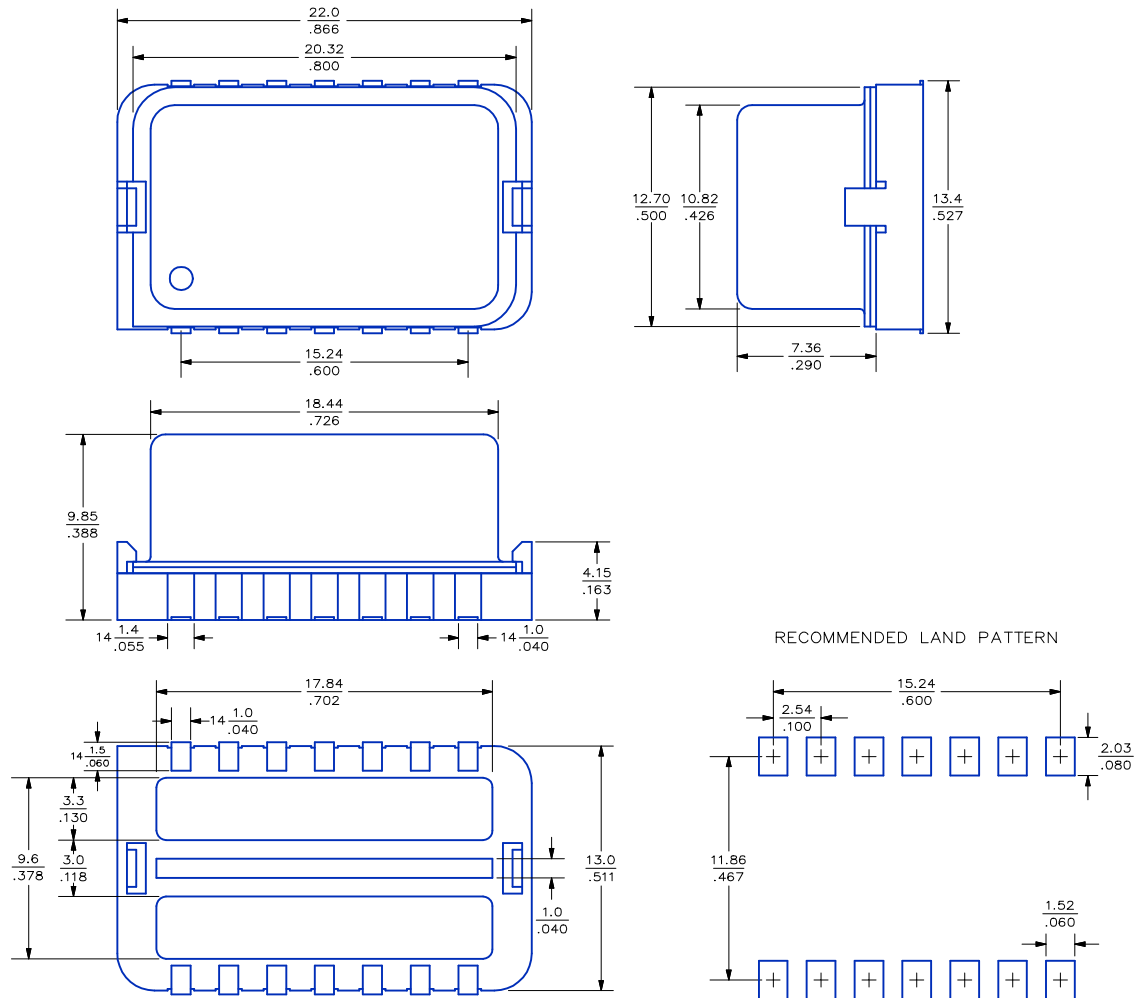
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REV A

True SMD Adaptor - 9.85mm High

Technical Data



REV A