SaRonix

Voltage Controlled Crystal Oscillator — 3.3V, LVPECL

Technical Data — S1568 Series

ACTUAL SIZE

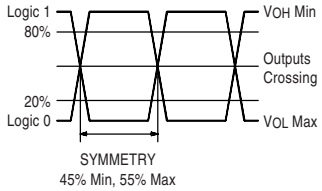
Description

A 3.3 Volt, voltage controlled LVPECL crystal oscillator designed primarily for use in phase locked loops, Sonet, ATM, SDH and network/switch applications. Device is packaged in a rugged, low profile 6-pin, S0J20, J-lead ceramic SMD package.

Applications & Features

- Broadband, Telecom, Networking
- SDH, ATM, SONET
- Switch Applications
- ˜ Phased Locked Loops
- Positive supply voltage 3.3V ECL (LVPECL)
- Differential Output, Enable/Disable feature
- Wide frequency range from 77.76 MHz to 168 MHz
- SaRonix proprietary fundamental crystals for exceptional jitter performance
- ±50ppm minimum APR*
- Available on tape & reel; 24mm tape, 500pcs per reel

Output Waveforms



Frequency Range:	77.76 MHz to 168 MHz
Frequency Stability:	±20, ±25, or ±50ppm over all conditions: operating temperature, supply voltage change, load change, calibration tolerance, aging (5 years @ +40°C average ambient operating temp range), shock and vibration.
Temperature Range:	
Operating:	0 to +70°C, 0 to +85°C, -40 to +85°C
Storage:	-55°C to +105°C
Supply Voltage:	3.3V ±10%
Supply Current:	65mA typ, 100mA max
Output Drive:	
Symmetry:	45/55% max @ 50% waveform
Rise & Fall Times:	550ps max @ 20 to 80% waveform
Logic 0:	V_{CC} -1.620 max
Logic 1:	V_{CC} -1.025 min
Load:	50Ω to V_{CC} -2V (output requires termination)
Period Jitter RMS:	3.5ps max
Pull Characteristics:	
Input Impedence (Pin 1):	50KΩ min
Frequency Response (-3dB):	10kHz min
Pullability:	±50ppm min APR*
Control Voltage:	0.3V to 3.0V
Transfer Function:	Frequency increases when control voltage increases
Monotonic Linearity:	10%
Center Control Voltage:	1.65V
Mechanical:	
Shock:	MIL-STD-883, Method 213, Condition B
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 I or J
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

Part Numbering Guide

S 1568 B A B - 80.0000 (T)

SaRonix

Model
3.3V PECL VCXO,
S0J20 J-lead, Ceramic SMD,
Complementary Output with Enable

Stability Tolerance
AA = ±20ppm, 0 to +70°C
A = ±25ppm, 0 to +70°C
B = ±50 ppm, 0 to +70°C
E = ±50 ppm, -40 to +85°C
G = ±50 ppm, 0 to +85°C

Pullability (minimum APR)**
A = ±50 ppm

Linearity
B = 10%

Frequency (MHz)

(T) = Tape & Reel
full reel increments only (500pcs)

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

DS-202 REV B

SaRonix 141 Jefferson Drive • Menlo Park, CA 94303 • USA • 650-470-7700 • 800-227-8974 • Fax 650-462-9894
www.saronix.com

SaRonix

Voltage Controlled Crystal Oscillator

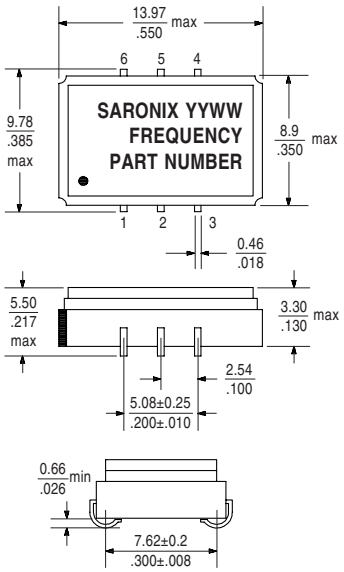
3.3V, LVPECL

Technical Data

S1568 Series

Package Details

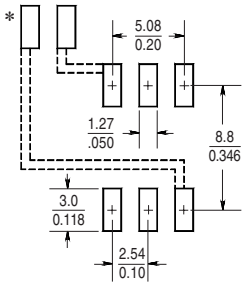
Marking Format (exact location of items may vary)
Includes Date Code, Frequency & Model



Pin Functions:

Pin 1: Control Voltage	Pin 4: Q Output
Pin 2: Enable	Pin 5: Q Output
Pin 3: GND / Case	Pin 6: Supply Voltage

Recommended Land Pattern



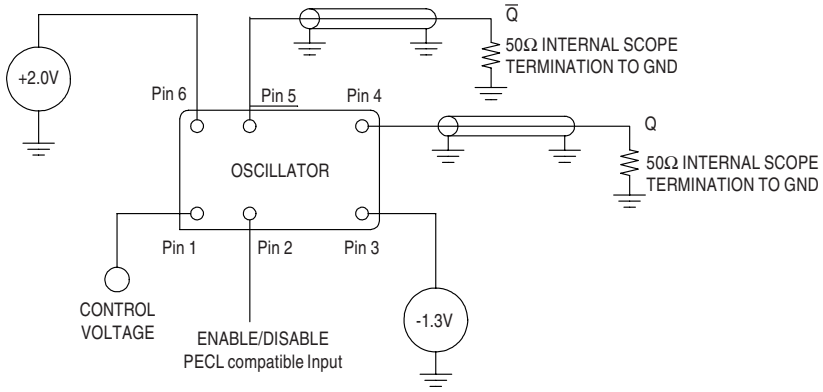
*External high frequency power supply decoupling required

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

Output Enable Characteristics

Output $\overline{\text{Enable}}$ Voltage (Pin 2): VCC - 1.475V max or Open
VCC - 1.165V min (Q output disabled to a fixed level of Logic 0)

Test Circuit



All specifications are subject to change without notice.

DS-202 REV B