



SMD Crystal Oscillator - PECL

XO 0990

Features

- Upto 1500 MHz
- Low Current Consumption
- RMS Jitter of 0.6 pS
- RoHS Compliant
- Supply Voltage of +3.3 V and +2.5 V

Mechanical Specifications

Outline	
Top View	
Front View	
Bottom View	
All dimensions are in mm. Tolerance is ± 0.1 mm, unless otherwise specified.	

Parameter	Specifications	
Series	XO 0990	
Frequency Range	150 MHz ~ 1500 MHz	
Supply Voltage, Vdd	3.3 V ± 5% (Code: 3) 2.5 V ± 5% (Code: 2)	
Current Consumption	75 mA (max.)	
Output Waveform	LVPECL	
Load	50 Ohms into Vdd-2 V	
Output High Level	Min. Vdd-1.03 V	Max. Vdd-0.6 V
Output Low Level	Min. Vdd-1.85 V	Max. Vdd-1.6 V
Output Voltage Swing	595 mV (min.), 750 mV (typ.), 930 mV (max.)	
Duty Cycle	50% ± 5%	
Rise/ Fall Time	200 ps (typ.) [20% and 80% of Waveform]	
Frequency Stability	Select from Table 1	
Operating Temperature Range (OTR)	Select from Table 1	
V Disable	0.3 Vdd (max.)	
V Enable	0.7 Vdd (min.)	
Enable Time	200 ns (max.)	
Disable Time	50 ns (max.)	
Start up Time	5 ms (typ.) and 10 ms (max.)	
Integrated Phase Jitter	0.6 ps (typ.) [12 KHz ~ 20 MHz]	
Aging @ 25°C	± 3 ppm (max.) for First Year; ± 2 ppm (max.) per Year, thereafter	
Storage Temperature Range	-55°C to +150°C	

Pad Configuration

Pad	Description
1	Tristate
2	No Connection
3	Ground
4	Output
5	Complementary Output
6	Supply Voltage

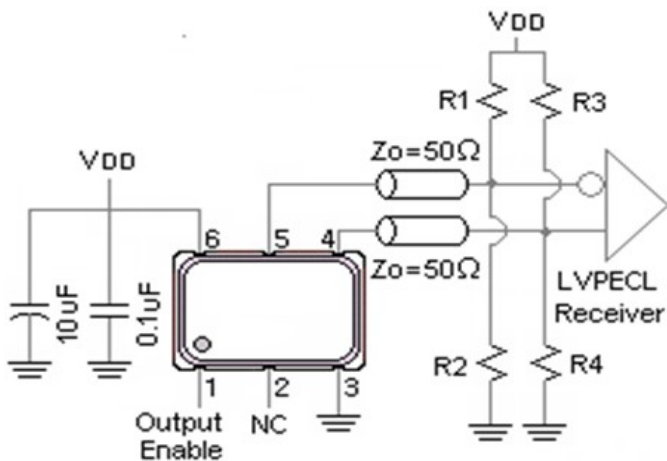
Table 1

OTR Codes	Stability Codes			F	G	M
	Frequency Stability			±20 ppm	±25 ppm	±50 ppm
E	Operating Temperature Range	-10°C to +70°C				
C		-20°C to +70°C				
I		-40°C to +85°C				

Denotes Available Denotes not Available

SMD Crystal Oscillator - PECL

LOAD CIRCUIT



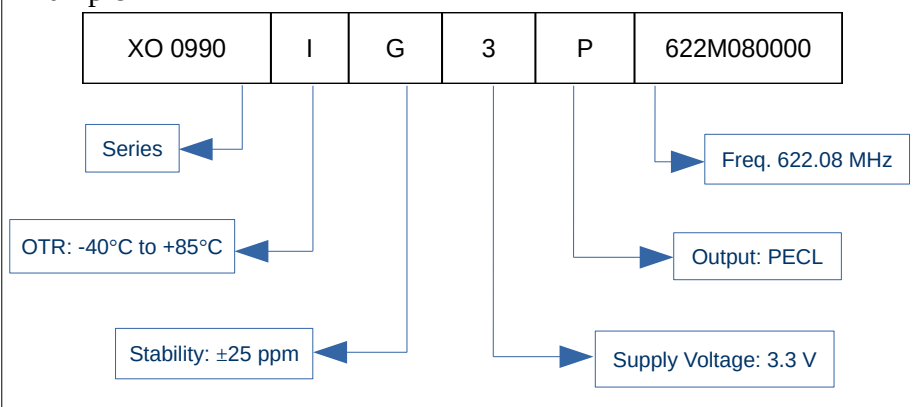
$V_{DD} = 3.3\text{ V} : R1 = R3 = 127\ \Omega ; R2 = R4 = 82.5\ \Omega$
 $V_{DD} = 2.5\text{ V} : R1 = R3 = 250\ \Omega ; R2 = R4 = 62.5\ \Omega$

SSB Phase Noise [dBc/ Hz (typ.)]

Offset	156.250 MHz (3.3 V)	622.08 MHz (3.3 V)	1250 MHz (3.3 V)
10 Hz	-67	-51	-32
100 Hz	-92	-77	-68
1 KHz	-112	-99	-94
10 KHz	-121	-109	-103
100 KHz	-124	-114	-105
1 MHz	-136	-121	-117
10 MHz	-153	-141	-136

Ordering Information

Example



Specifications subject to change without notice

Date of Issue: 3rd February 2021

Note: Not all combination of options are available. Other specifications may be available upon request.

Doc. No.: AE/DS/CS/003

ISSUE 01

REVISION 00

Page 2 of 2

Andhra Electronics Pvt. Ltd.

Plot No.: 34 & 35, IDA,
 Kakinada-533 005
 Andhra Pradesh, India
 URL: www.andhraelec.com

Phone: +91 884 234 2203
 Fax: +91 884 234 1145
 e-mail: info@andhraelec.com