



SMD Crystal Oscillator - LVPECL

XO 0650

Features

- 500 fs Integrated Phase Jitter
- Superior Phase Noise at 10 KHz and at 100 KHz offsets
- RoHS Compliant Standard

Mechanical Specifications

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

Pad Configuration

Pad	Description
1	Tri-state
2	No Connection
3	Ground
4	Output
5	Complementary Output
6	Supply Voltage

Parameter	Specification	
Frequency Range	15 MHz to 200 MHz	
Supply Voltage, V_{dd}	+3.3 V ± 5%	
Output Waveform	LVPECL	
Load	50 Ω into $V_{dd}-2$ V	
Output High Level	Min.	Max.
	$V_{dd}-1.03$ V	$V_{dd}-0.6$ V
Output Low Level	Min.	Max.
	$V_{dd}-1.85$ V	$V_{dd}-1.6$ V
Output Voltage Swing	750 mV (typ.)	
Waveform Symmetry	45% to 55%	
Rise/ Fall Time	0.5 ns (max.) [20% and 80% of Waveform]	
Integrated Phase Jitter	0.5 ps (max.) [12 KHz~20 MHz]	
Current Consumption	50 mA (max.)	
Frequency Stability	Select from Table 1	
Operating Temperature Range (OTR)	Select from Table 1	
V Disable	0.3 V_{dd} (max.)	
V Enable	0.7 V_{dd} (min.)	
Enable Time	10 ms (max.)	
Disable Time	200 ns (max.)	
Start-up Time	10 ms (max.)	
Aging @ 25°C	± 3 ppm (max.) for First Year	
Storage Temperature Range	-55°C to +150°C	

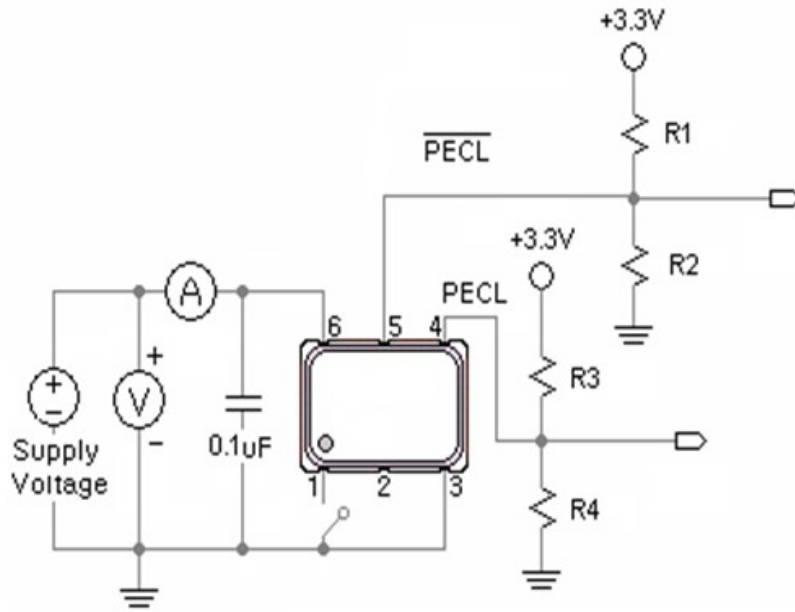
Table 1

OTR Codes	Stability Codes				
	Frequency Stability	F	G	M	K
Operating Temperature Range	0°C to +70°C	±20 ppm	±25 ppm	±50 ppm	±100 ppm
	-20°C to +70°C				
	-40°C to +85°C				

 Denotes Available  Denotes not Available

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LOAD CIRCUIT



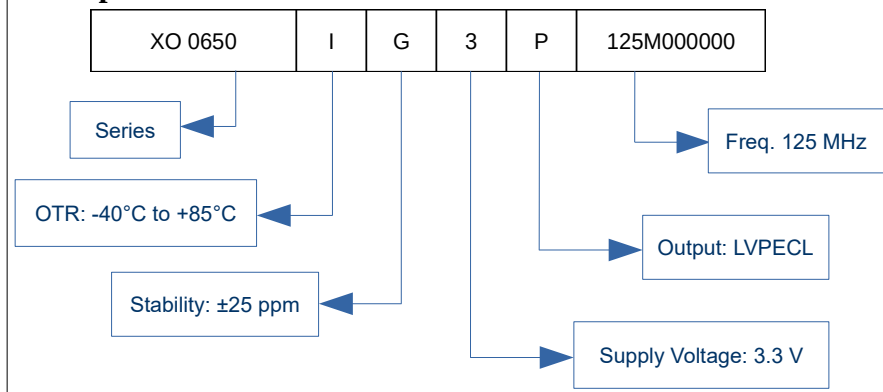
VDD = 3.3 V : R1 = R3 = 127 Ω ; R2 = R4 = 82.5 Ω
 VDD = 2.5 V : R1 = R3 = 250 Ω ; R2 = R4 = 62.5 Ω

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

Offset	62.500 MHz	156.250 MHz
10 Hz	-49	-50
100 Hz	-83	-80
1 KHz	-116	-115
10 KHz	-137	-135
100 KHz	-143	-142
1 MHz	-149	-147
10 MHz	-155	-152

Ordering Information

Example



Specifications subject to change without prior notice

Rev. Date: 9th May 2023

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

Doc. No.: AE/DS/CS/027

ISSUE 01

REVISION 00

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