

FEATURES

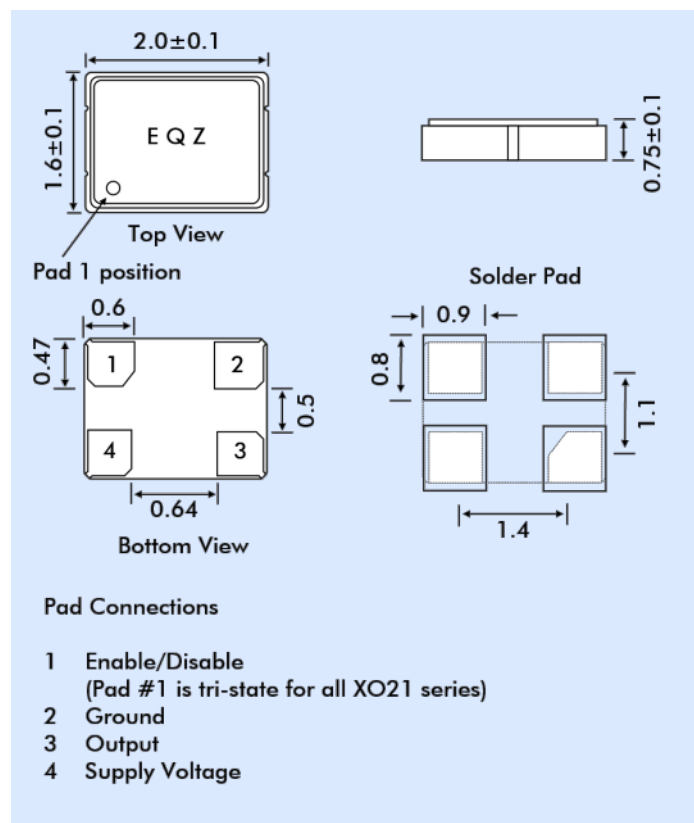
- Ultra-small SMD seam sealed clock crystal oscillator unit
- Frequency Range 2.5MHz to 50MHz
- Tristate (Enable/Disable) function as standard
- Supply voltage 1.8, 2.5 or 3.3 Volts


DESCRIPTION

XO21 ultra-small clock oscillators consist of a TTL/CMOS-compatible hybrid circuit and a miniature quartz crystal packaged in a low-profile, industry-standard ceramic package. XO21 oscillators are fully specified clocks with low mass and a very small footprint.

SUPPLY VOLTAGE-DEPENDENT PARAMETERS

Supply Voltage	+1.8VDC±5% Code = 'C'	+2.5VDC±5% Code = 'B'	+3.3VDC±5% Code = 'A'
Frequency Range	2.5MHz~50MHz	2.5MHz~50MHz	2.5MHz~50MHz
Logic HIGH '1' (90%V _{dd} min.)	1.62V min.	2.25V min.	2.97V min.
Logic LOW '0' (90% V _{dd} max.)	0.18V max.	0.25V max.	0.33V max.
Current Consumption	5mA max.	5mA max.	8mA max.
Rise Time/ Fall Time	5ns max. 3ns typ.	5ns max. 3ns typ.	5ns max. 3ns typ.

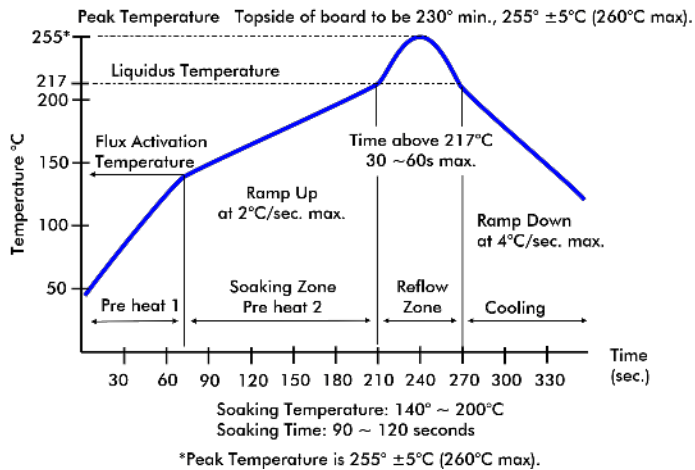
OUTLINE & DIMENSIONS

SPECIFICATION

Supply Voltage:	1.8, 2.5 or 3.3Volts ±5%,
Output Logic:	HCMOS/LSTTL
Frequency Stability:	See table
Rise/Fall Time:	See table
Output Load	15pF (50pF load available)
Duty Cycle:	50%±10% [50%±5% also available]
Supply Current:	See table
Operating Temperature	
Commercial:	-10° to +70°C
Industrial:	-40° to +85°C
Storage Temperature:	-50° to +100°C
Start-up Time:	10ms max.
Ageing:	±3ppm max.
Tristate Function (Pad 1):	Enable/Disable function is standard for XO21. Output (Pad 3) is active if Pad 1 not connected or Pad 1 is 'HIGH'. Output high impedance when 'LOW' or GROUND is applied to Pad 1.
Packaging:	8mm tape, 180mm reel, 1k or 2k pieces per reel

ENVIRONMENTAL PERFORMANCE SPECIFICATION

RoHS Status:	Compliant
Storage Temperature Range:	-55° to +105°C
Humidity:	85% RH, 85°C for 48 hours
Hermetic Seal:	Leak rate 2x10 ⁻⁸ ATM -cm ³ /s max.
Solderability:	MIL-STD-202F Method 208E
Reflow:	260°C for 10 sec (see diagram)
Vibration:	MIL-STD-202F Method 204, 35±5 mins, 50 to 2000Hz
Shock:	MIL-STD-202F Method 213B, test Condition E, 50g 11ms.

Note: Parameters are measured at ambient temperature of 25°C, supply voltage as stated and a load of 15pF

SOLDER TEMPERATURE PROFILE**PART NUMBERING**

Example: **20.000MHz XO21050UCTA**

Frequency ←

Series Designation XO21 ←

Temperature Stability* ←

100 = ±100ppm

050 = ±50ppm

025 = ±25ppm

Output CMOS/LSTTL ←

Operating Temp. Range ←

C = Commercial -10° to +70°C

I = Industrial -40° to +85°C

Tristate Function ←

Supply Voltage ←

A = 3.3 Volts

B = 2.5 Volts

C = 1.8 Volts

* For other stability requirements enter figure required.
E.g. for ±20ppm add '020' after 'XO21'.