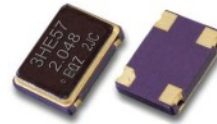


### FEATURES

- $\pm 1$ ppm tolerance,  $\pm 5$ ppm over  $-10^\circ$  to  $+70^\circ$ C
- A clock oscillator with close to TCXO performance
- Femto second phase jitter and  $-154$ dBc/Hz at 100kHz offset
- An economic solution for tight tolerance and stability clocks



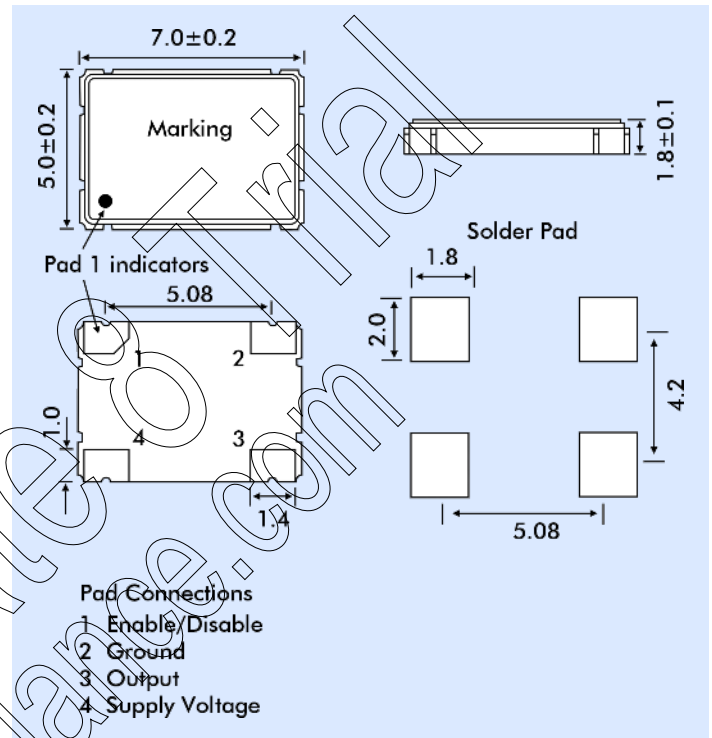
### DESCRIPTION

XOE91 oscillators are high performance SMD clock oscillators with tight temperature stability. Frequency tolerance is  $\pm 1$ ppm at  $25^\circ$ C with stability of  $\pm 5$ ppm over  $-10^\circ$  to  $+70^\circ$ C. XOE91 oscillators exhibit superior phase noise performance:  $-154$  dBc/Hz at 100kHz. Integrated phase jitter is 300fs typical, 12kHz to 20MHz.

### SPECIFICATION

Frequency Range:	20.0MHz to 60.0MHz
Output Logic:	LVC MOS
Frequency Tolerance:	$\pm 1$ ppm maximum at $25^\circ$ C
Frequency Stability:	$\pm 5$ ppm over $-20^\circ$ to $+70^\circ$ C (see part number information)
Output Voltage HIGH '1':	Vdd * 0.9 minimum
Output Voltage LOW '0':	Vdd * 0.1 maximum
Load:	15pF
Current Consumption:	Supply voltage dependent, see table
Rise/FallTime	
Vdd 1.8V or 2.5V:	6ns maximum (10% to 90%Vdd)
Vdd 3.3V:	4ns maximum (10% to 90%Vdd)
Start-up Time:	0.6ms typical, 1.0ms maximum
Symmetry:	$50\% \pm 5\%$ measured at Vdd/2
Tristate Function (Pad 1):	Implemented as standard
Phase Jitter (rms):	300 fs typical, 12kHz to 20MHz
Phase Noise:	See table
Storage Temperature:	$-55^\circ$ to $+150^\circ$ C
Ageing:	$\pm 2$ ppm/year max. for first year

### OUTLINE & DIMENSIONS



### CURRENT CONSUMPTION

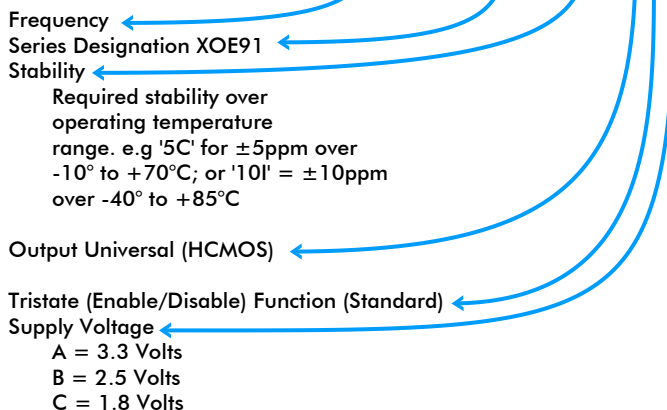
Frequency	Supply Voltage ( $\pm 10\%$ )		
	+1.8V	+2.5V	+3.3V
20.0~39.99MHz	3.0mA	3.5mA	4.0mA
40.0~5.0MHz	4.5mA	5.0mA	7.0mA

### SSB PHASE NOISE

Offset	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	10MHz
dBc/Hz	-70	-101	-128	-148	-154	-156	-160

### PART NUMBERING

Example: **32.000MHz XOE91-5C-UTC**



### SOLDER TEMPERATURE PROFILE

