



Features and Benefits

- Frequency range 32KHz to 100MHz
- SMT Clock oscillator in ceramic package
- Fundamental quartz mode frequency
- High shock and vibration resistance
- Wide temperature range
- Low aging
- Ultra low internal MSL
- Very fast start-up

Typical Applications

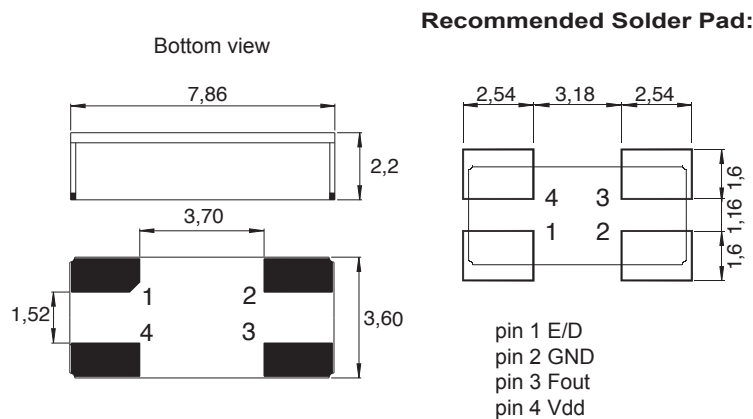
- Downhole and Well drilling equipments
- Avionics
- Airbone equipments
- Geothermal equipments
- Fire fighter equipments

Description

The ETXO7836BZ_series in ceramic package has been specially designed for surface mount using infrared, vapor phase or epoxy techniques.

Mechanical Drawing & Pin Connections

Drawing No: MD190027-1



Unit in mm
1mm = 0.0394 inches



Specifications

Electrical Characteristics at +25°C

Frequency stability Over temperature range -55 to +125°C (see ordering info) Including 2)*	$\Delta F/F$	$\leq \pm 100$	ppm
Frequency stability Over temperature range -55 to +150°C (see ordering info) Including 2)*	$\Delta F/F$	$\leq \pm 150$	ppm
Frequency stability Over temperature range -55 to +175°C (see ordering info) Including 2)*	$\Delta F/F$	$\leq \pm 300$	ppm
Frequency stability Over temperature range G = -55 to +210°C (see ordering info) Including 2)*	$\Delta F/F$	$\leq \pm 400$	ppm
Supply voltage $\pm 5\%$ 1)*	Vdd	2.5 / 3.3 / 5	V
Input current	Idd	see table 1	
Output signal		HC-MOS compatible	
Symmetry at Vdd/2		40 / 60	%
Rise & fall time $\leq 20\text{MHz}$ For F=32.768 kHz rise & fall time $\leq 150\text{ns}$ (load 15pf 20% to 80%)		≤ 7	ns
Rise & fall time $\geq 20\text{MHz}$ for (load 15pf 10% to 90%)		≤ 3	ns
Level "0" & "1"		$<0.4>V_{dd}-0.5$	V
Start-up time	t	<5	ms
Load min / max		3/47	pF

1) C = 47nF ceramic must be connected between GND & Vdd Operable over 2.3 to 5.5V

2) adjustment at +25°C, long term aging 1000h at Tmax ordered over supply voltage $\pm 5\%$ and over load min to max



Table 1 (without Load):

Frequency	F=32 kHz	F=< 10MHz	≤ 20MHz	>20 to100MHz
Vdd = 2.5V	< 300µA	< 2mA	< 3mA	< 15mA
Vdd = 3.3V	< 1mA	< 4mA	< 5mA	< 20mA
Vdd = 5V	< 2mA	< 6mA	< 7mA	< 30mA

Standard Frequencies :

Frequency (MHz)						
3.6864	4	8	10	12	12.8	14.7456
16	20	24	40	48	0.032768	
Other frequencies from 32 kHz up to 100MHz on request						

Environmental and other Characteristics

Storage temp. range	-65 to +125°C
Shock resistance(survival)	10000g / 0.3ms / ½ sine
Vibration resistance(survival)	10 to 2000Hz / 80g
Reflow soldering	260°C / 10s max
Package	Ceramic 8 x 4 x 2.2mm
Lids	Kovar
Plated	Au
E/D option on request Reaction time < 1µs	Pin 1 open → Pin 3 Clock H → Clock L → Low

Note:

- No power E/D function (pin 1) before Vdd is setting on
- E/D option not available for F < 500 kHz
- E/D option on request (very low consumption in disable mode).



Ordering Information

ETXO7836BZ	-	xxMHz	-	01	02	03
Group			Code			

For example, ETXO7836BZ-10MHz-2-2-2 denotes the XTAL has the following specifications:

Frequency:	10MHz
Supply Voltage:	3.3V
Temperature Range:	-55°C to +150°C
E/D Option:	Disable

01	Supply Voltage
Code	Specification
1	2.5V
2	3.3V
3	5.0V

02	Temperature Range
Code	Specification
1	-55°C to +125°C
2	-55°C to +150°C
3	-55°C to +175°C
4	-55°C to +210°C

03	E/D Option
Code	Specification
1	Enable
2	Disable