

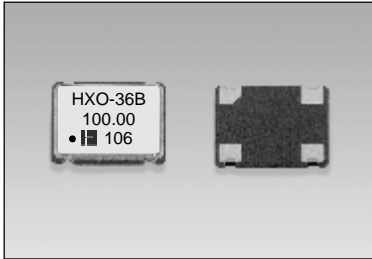


CERAMIC SMD QUARTZ OSCILLATOR



• HXO-3 Series

7.0X5.0X1.5 mm



FEATURES

- Tri-State Enable/Disable
- TTL/HCMOS compatible
- Tape and Reel
- IR Re-flow
- 5.0V,3.3V,2.8V and 1.8V Options

Electrical Specifications

Parameter	Condition	HXO-33	HXO-36	HXO-39	HXO-37	Note
Frequency Range	F0	1MHz~100MHz	1MHz~133MHz			
Frequency Stability*	All Condition*	± 20ppm, ± 50ppm Options				See table1
Operating Temperature Range	T _{OPR}	-20°C ~ +70°C (-40°C ~ +85°C Options)				See table2
Storage Temperature Range	T _{STG}	-55°C ~ +125°C				
Power supply Voltage	V _{DD}	5.0V +/- 10%	3.3V +/- 10%	2.8V +/- 10%	1.8V +/- 10%	
Supply Current	I _{DD}	1MHz to 9.999MHz	15mA Max	8mA Max	7mA Max	6mA Max
		10MHz to 34.999MHz	20mA Max	10mA Max	8mA Max	7mA Max
		35MHz to 49.999MHz	35mA Max	25mA Max	20mA Max	15mA Max
		50MHz to 133.000MHz	40mA Max	35mA Max	30mA Max	25mA Max
Output Symmetry	Sym	At 1/2V _{DD}				40/60% (45/55% Options)
Rise time	T _r	10% V _{DD} ~90% V _{DD}	6 nS Max	6 nS Max	7 nS Max	8 nS Max
Fall Time	T _f	90% V _{DD} ~10% V _{DD}	6 nS Max	6 nS Max	7 nS Max	8 nS Max
Output Voltage	V _{OH}	90% V _{DD} Min				
	V _{OL}	10% V _{DD} Max				
Output Load	HCMOS Load	15pF Typ.				
Start Time	T _s	10ms Max				
Stand-by Function		Yes				
Aging(First Year)	25°C ± 3°C	± 2ppm Max				
Pin 1,E/D function		Pin 1=H or open....Output active at pin 3				
		Pin 1=L.....high impedance at pin 3				
Packing Unit		1000pcs/reel				

*Include: 25°C tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration

Part Number Generation

Example: **D 3 6 B 100.000 G T S**

Internal Code

Package

Power supply Voltage (3=5V
6=3.3V 9=2.8V 7=1.8V)

Frequency Stability (In ppm)

Nominal Frequency (In MHz)

Operating Temperature Range

Output Symmetry (N=40/60% T=45/55% R=47.5/52.5%)

Output Load (S=Standard H=High)

Table 1:

Frequency Stability
G= ± 20ppm
A= ± 25ppm
B= ± 50ppm

Table 2:

Operating Temp.
E = -20°C to +70°C
G = -30°C to +85°C
W = -40°C to +85°C

Mechanical Dimensions(mm)

Top View

7.00 ± 0.10

0.10 ± 0.05

MARKING AREA

0.60 3.80 1.60

1.20 2.60 1.20

Recommended Solder Pattern

1.80 3.60 1.80

1.60 2.00

Pin	Connection
#1	Tri-State
#2	GND
#3	Output
#4	V _{DD}

**Note: 0.01uF bypass capacitor should be placed between V_{DD}(Pin4) and GND (Pin2) to Minimize power supply line noise

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Specifications are subject to change without notice