Dynamic Engineers Inc.

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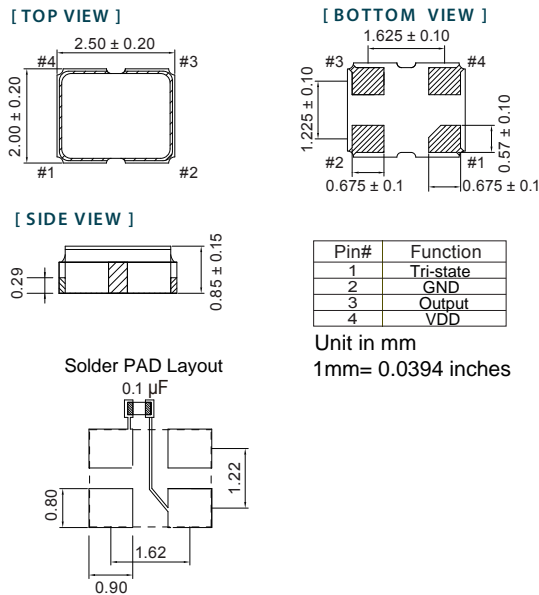TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

XO2521BM
2.5x 2.0 mm SMD Crystal Oscillator

Features and Benefits

Tight Tolerance: ±4 ppm accuracy @25°C,
±4 ppm over -40°C to +85°C
LVCMOS Output Logic
Tight symmetry (45 to 55%) available.
Operation voltage: 1.8V, 2.5V, 3.3V.
Tri-state enable/disable.
Femto second phase jitter and-152dBc/Hz at 10kHz offset.

Typical Applications

Wireless Connectivity
Video Distribution

Mechanical Drawing & Pin Connections

Drawing No: MD200035-1

[TOP VIEW]

2.50 ± 0.20
2.00 ± 0.20

#4   #3
#1   #2

[BOTTOM VIEW]

1.625 ± 0.10
1.225 ± 0.10
0.57 ± 0.10

#3   #4
#2   #1

0.675 ± 0.1   0.675 ± 0.1

[SIDE VIEW]

0.29
0.85 ± 0.15

Pin#	Function
1	Tri-state
2	GND
3	Output
4	VDD

Unit in mm
1mm= 0.0394 inches

Solder PAD Layout
0.1 µF

1.22
0.80
1.62
0.90

To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF
as close to the part as possible between Vdd and GND pads.

Specifications

Specification	Conditon	3.3V		2.5V		1.8V		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation		V_{DD}-10%	V_{DD}+10%	V_{DD}-10%	V_{DD}+10%	V_{DD}-10%	V_{DD}+10%	V
Frequency Range		19	60	19	60	19	60	MHz
Supply Current	19MHz-60MHz	-	10	-	7	-	5	mA
Output Level(CMOS)	Output High	2.97	-	2.25	-	1.62	-	V
	Output Low	-	0.33	-	0.25	-	0.18	
Transition	Rise/Fall Time	-	8	-	8	-	8	nSec
Duty Cycle		45	55	44	45	45	55	%
Start Time		-	5	-	5	-	5	mSec
Tri-State(input to pin1)	Enable	2.31	-	1.75	-	1.26	-	V
	Disable	-	0.99	-	0.75	-	0.54	
RMS Phase Jitter	Integrated 12KHz to 20MHz	-	1	-	1	-	1	pSec
Phase Noise @26MHz	10Hz	-90						dBc/Hz
	100Hz	-115						
	1KHz	-136						
	10KHz	-152						
Aging	@25°C 1st year	-	±1	-	±1	-	±1	ppm
Storage Temp. Range		-55°C to +125°C						°C

Note: *Transition times are measured between 10% and 90% of V_{DD} with an output load of 15pF

Frequency Stability vs. Temperature

	±5PPM	±10PPM	±15PPM
-10°C to +60°C	Available	Available	Available
-20°C to +70°C	Conditional	Available	Available
-40°C to +85°C	Not Available	Available	Available

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