

General Description

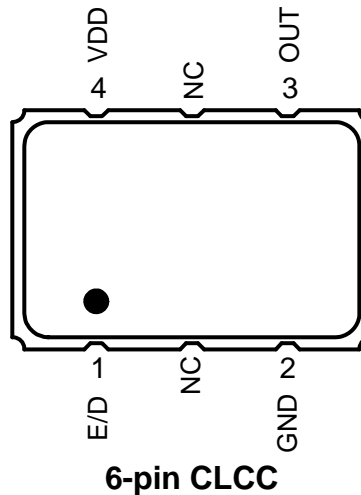
The XLH is an HCMOS Crystal Oscillator with 750fs typical phase jitter over 12kHz to 20 MHz bandwidth. Available in a wide frequency range from 0.750MHz to 250MHz, the IDT XLH Series Crystal Oscillator utilizes a family of proprietary ASICs, with a key focus on noise reduction technologies.

The 3rd order Delta Sigma Modulator reduces noise to the levels that are comparable to traditional Bulk Quartz and SAW oscillators. With short lead-time, low cost, low noise, wide frequency range, excellent ambient performance, the XLH is an excellent choice over the conventional technologies. The XLH has stabilities as tight as $\pm 20\text{ppm}$ with extremely quick delivery for both standard and custom frequencies

Features

- Frequency range: 0.750 to 250 MHz
- Output Type: HCMOS/LVCMOS Compatible
- Frequency Stability: $\pm 20\text{ppm}$, $\pm 25\text{ppm}$, $\pm 50\text{ppm}$, or $\pm 100\text{ppm}$
- Supply Voltage: 2.5V or 3.3V
- Phase Jitter (1.875MHz to 20MHz): 225fs typical
- Phase Jitter (12kHz to 20MHz): 750fs typical
- Package options: 3.2mm x 2.5mm x 1.0mm (JX4)
5.0mm x 3.2mm x 1.2mm (JS4)
7.0mm x 5.0mm x 1.3mm (JU4)
- Operating Temperatures: -20°C to $+70^{\circ}\text{C}$ or -40°C to $+85^{\circ}\text{C}$

Pin Assignment

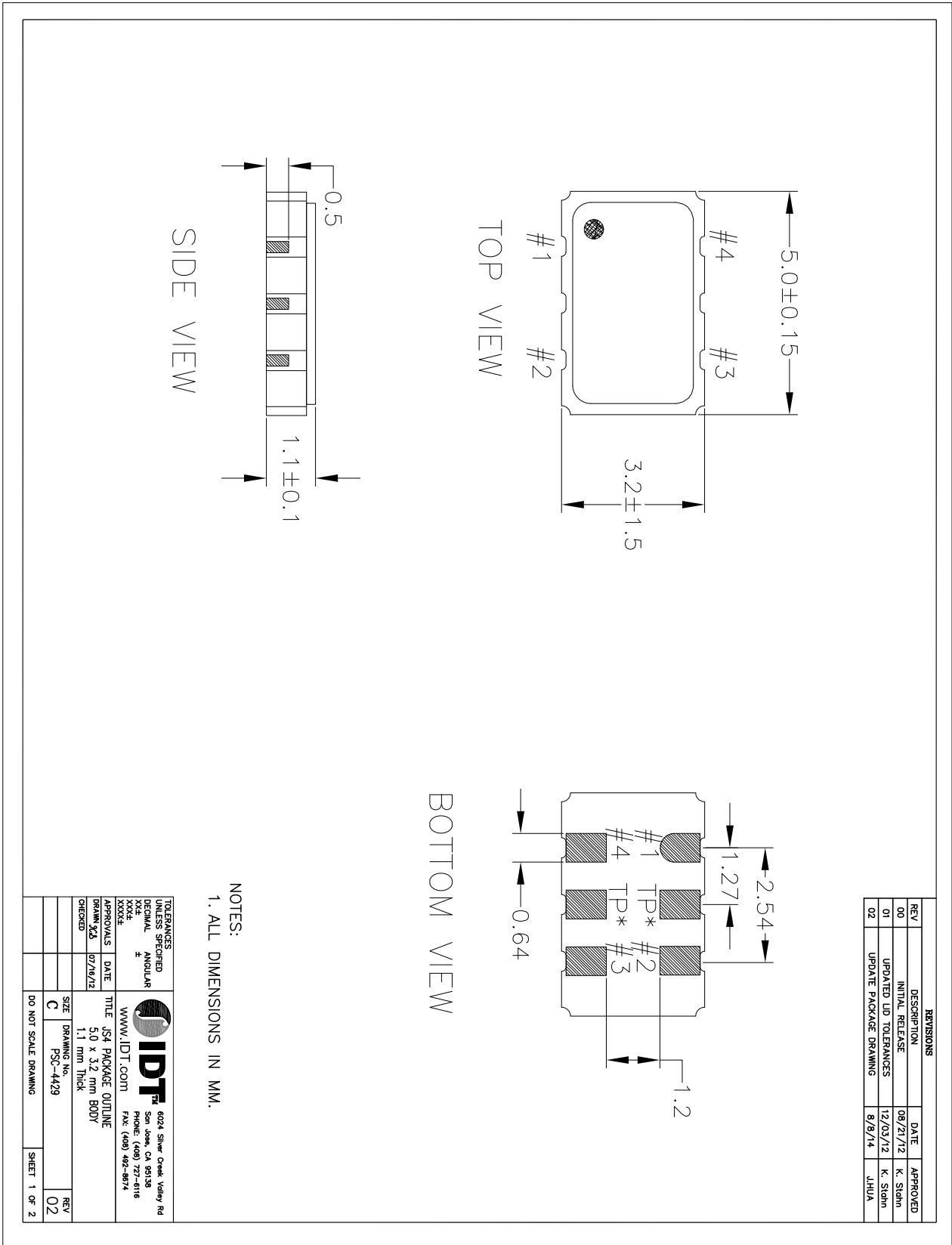


Pin Descriptions

Pin Number	Pin Name	Description
1	E/D	Enable/Disable ¹ (0=Output Disabled)
2	GND	Connect to ground
3	OUT	Output
4	VDD	Supply voltage

1. Pulled high internally.

JS4 Package Outline and Dimensions



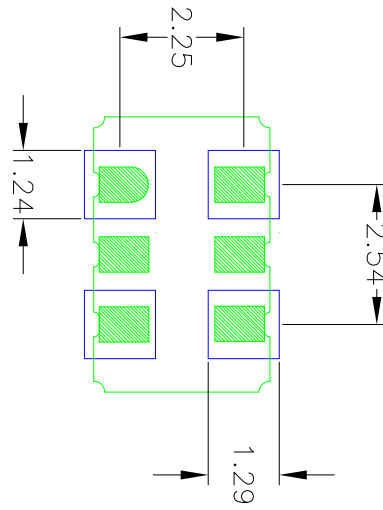
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	08/21/12	K. Stohm
01	UPDATED LID TOLERANCES	12/03/12	K. Stohm
02	UPDATE PACKAGE DRAWING	8/8/14	JHUA

NOTES:
1. ALL DIMENSIONS IN MM.

TOLERANCES UNLESS SPECIFIED DECIMAL ± ANGULAR ° XXXX		6024 Silver Creek Valley Rd San Jose, CA 95138 PHONE: (408) 727-6116 FAX: (408) 482-8674	
APPROVALS: DATE DRAWN: XJA 07/18/12 CHECKED:		TITLE: JS4 PACKAGE OUTLINE 5.0 X 3.2 mm BODY 1.1 mm THICK	
SIZE: C DRAWING NO.: PSC-4429		REV: 02 DO NOT SCALE DRAWING	
WWW.IDT.COM		SHEET 1 OF 2	



JS4 Package Outline and Dimensions (cont.)



RECOMMENDED LAND PATTERN

- NOTES:
1. ALL DIMENSION ARE IN mm. ANGLES IN DEGREES.
 2. TOP DOWN VIEW, AS VIEWED ON PCB.
 3. COMPONENT OUTLINE SHOW FOR REFERENCE IN GREEN.
 4. LAND PATTERN IN BLUE. NSMD PATTERN ASSUMED.
 5. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

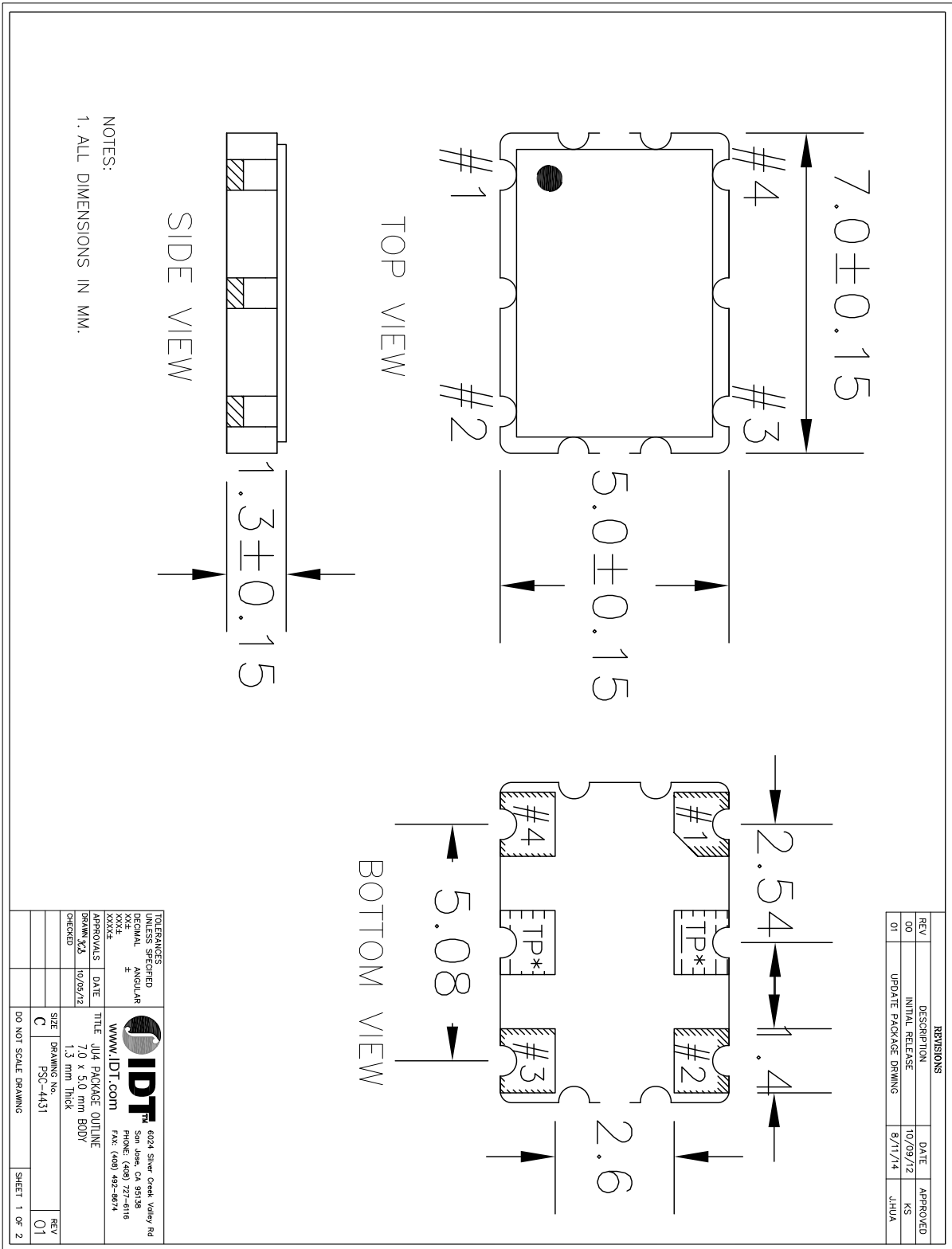
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	09/27/12	K. Stahn
01	UPDATED LID TOLERANCES	12/03/12	K. Stahn
02	UPDATE PACKAGE DRAWING	8/9/14	JHUA

TOLERANCES UNLESS SPECIFIED	
XX.X	± 0.25mm
XX.XX	± 0.125mm
XX.XXX	± 0.075mm
APPROVALS	DATE
DESIGNED BY: XJS	07/09/12
CHECKED BY:	
SIZE	C
DRAWING No.	F5C-4429
REV	02
DO NOT SCALE DRAWING	
SHEET 2 OF 2	

8004 Silver Creek Valley Rd
 San Jose, CA 95138
 PHONE: (408) 772-8116
 WWW.IDT.COM FAX: (408) 492-8774



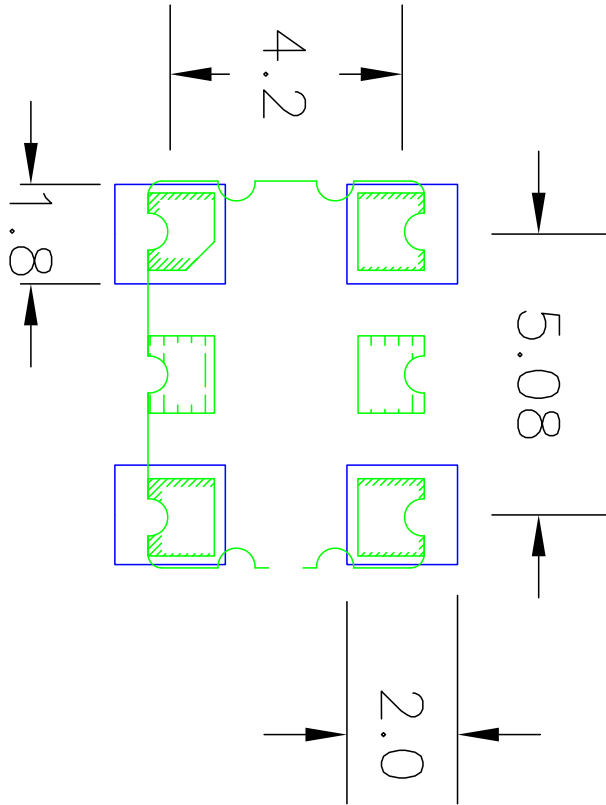
JU4 Package Outline and Dimensions



JU4 Package Outline and Dimensions (cont.)

- NOTES:
1. ALL DIMENSION ARE IN mm. ANGLES IN DEGREES.
 2. TOP DOWN VIEW. AS VIEWED ON PCB.
 3. COMPONENT OUTLINE SHOW FOR REFERENCE IN GREEN.
 4. LAND PATTERN IN BLUE. NSMD PATTERN ASSUMED.
 5. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

RECOMMENDED LAND PATTERN



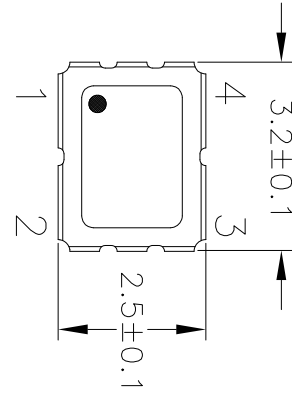
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	10/09/12	KS
01	UPDATE PACKAGE DRWING	8/11/14	JHUA

TOLERANCES UNLESS SPECIFIED			
CENITAL	ANGULAR		
XXXX			
XXXX			
APPROVALS	DATE		
DRAWN XJS	10/09/12		
CHECKED			
SIZE	DRAWING No.	REV	
C	PSC-4431	01	
DO NOT SCALE DRAWING			SHEET 2 OF 2

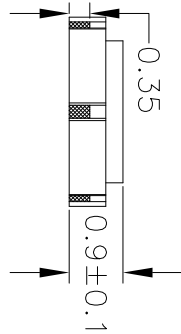


JX4 Package Outline and Dimensions

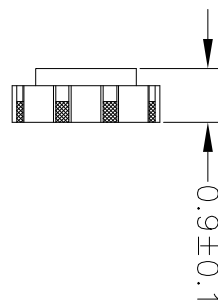
NOTES:
1. ALL DIMENSIONS IN MM.



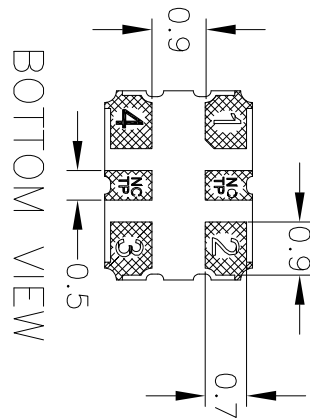
TOP VIEW



SIDE VIEW



END VIEW

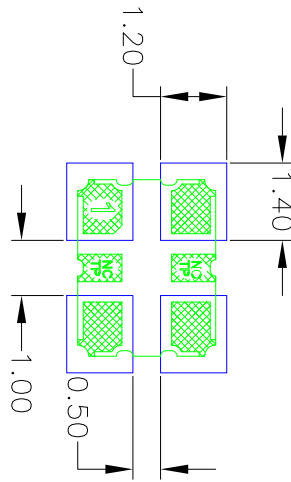


BOTTOM VIEW

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	8/8/14	JHUA

ITERANCES	UNLESS SPECIFIED		6024 Silver Creek Valley Rd San Jose, CA 95138 PHONE: (408) 772-6116 FAX: (408) 492-8674
DECIMAL	ANGULAR		
XXX±	±	www.IDT.com	
DATE	TITLE	JX4 PACKAGE OUTLINE	
8/8/14	3.2 x 2.5 mm BODY		
0.9 mm Thick			
PSC-4489			
00	REV		
1 OF 2	SHEET		

JX4 Package Outline and Dimensions (cont.)



RECOMMENDED LAND PATTERN

- NOTES:
1. ALL DIMENSION ARE IN mm. ANGLES IN DEGREES.
 2. TOP DOWN VIEW. AS VIEWED ON PCB.
 3. COMPONENT OUTLINE SHOW FOR REFERENCE IN GREEN.
 4. LAND PATTERN IN BLUE. NSMD PATTERN ASSUMED.
 5. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	8/8/14	J.HUA

TOLERANCES UNLESS SPECIFIED		6024 Silver Creek Valley Rd San Jose, CA 95138 PHONE: (408) 727-6116 FAX: (408) 462-8874	
DECIMAL	ANGULAR	WWW.IDT.COM TITLE: JX4 PACKAGE OUTLINE	
±	±	DATE	SIZE
0.004	0.004	8/8/14	3.2 x 2.5 mm BODY
0.004	0.004	APPROVALS	0.9 mm Thick
0.004	0.004	DATE	DO NOT SCALE DRAWING
0.004	0.004	CHECKED	
0.004	0.004	SIZE	
0.004	0.004	C	DRAWING No. PSC-4489
0.004	0.004	REV	00
0.004	0.004	SHEET	2 OF 2