

### General Description

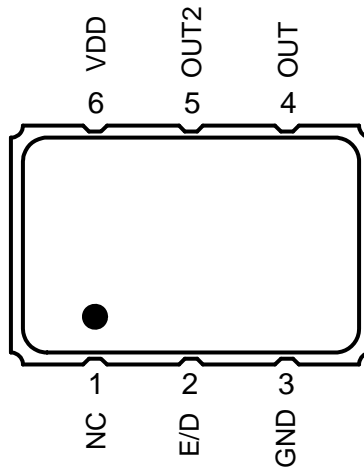
The XUQ is an Ultra Precision LVPECL Crystal Oscillator with 300fs typical phase jitter over 12kHz to 20 MHz bandwidth. Available in a wide frequency range from 16kHz to 670 MHz, the IDT XUQ Series Crystal Oscillator utilizes a family of proprietary ASICs, with a key focus on noise reduction technologies.

The 4th 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 XUQ is an excellent choice over the conventional technologies. The XUQ has stabilities as tight as  $\pm 20\text{ppm}$  with extremely quick delivery for both standard and custom frequencies.

### Features

- Frequency range: 0.016 to 670 MHz
- Output Type: LVPECL
- Frequency Stability:  $\pm 20\text{ppm}$ ,  $\pm 25\text{ppm}$ ,  $\pm 50\text{ppm}$ , or  $\pm 100\text{ppm}$
- Supply Voltage: 1.8V, 2.5V, or 3.3V
- Phase Jitter (1.875MHz to 20MHz): 100fs typical
- Phase Jitter (12kHz to 20MHz): 300fs typical
- Package options: 5.0mm x 3.2mm x 1.2mm (JS6)  
7.0mm x 5.0mm x 1.3mm (JU6)
- Operating Temperatures:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  or  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

### Pin Assignment



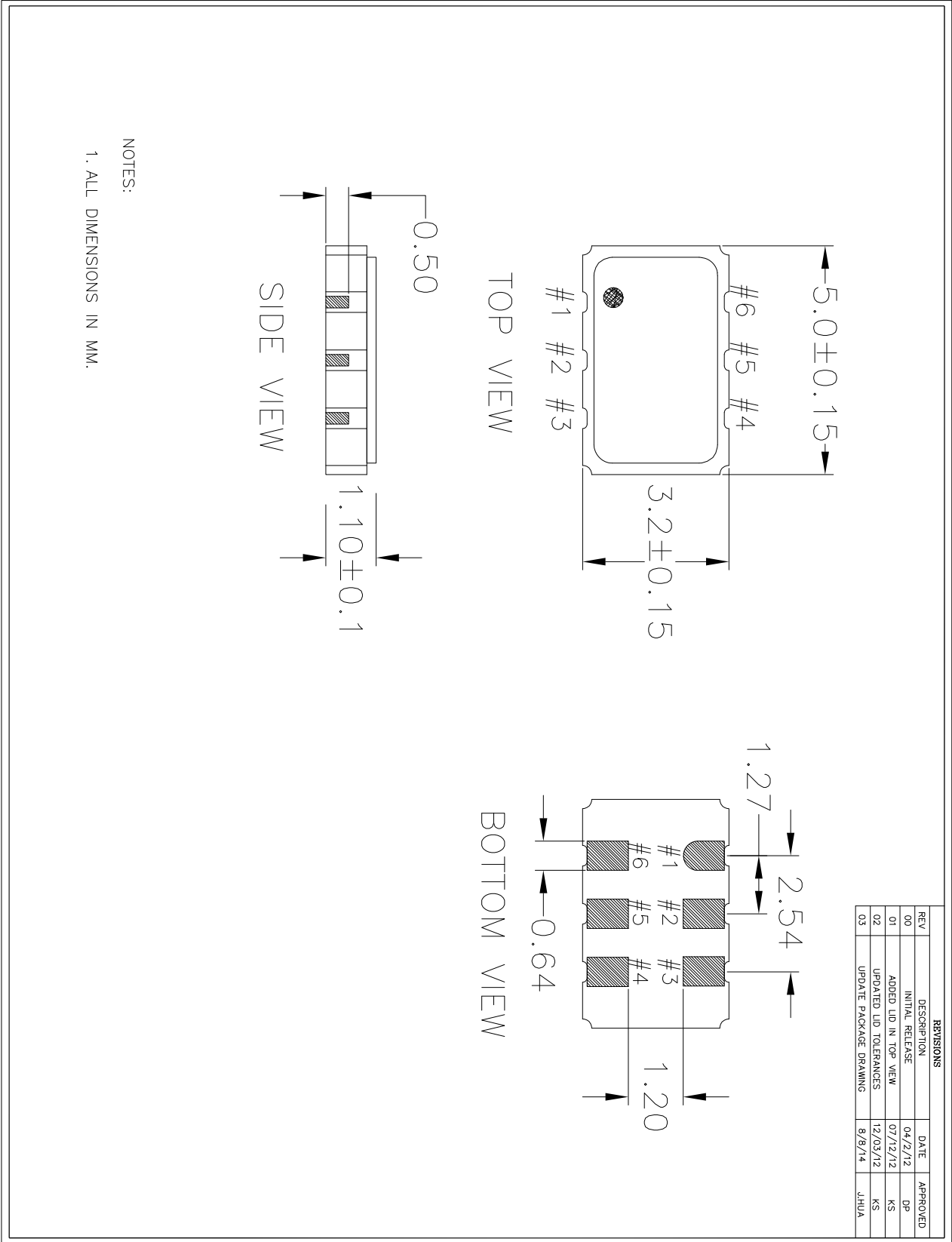
**6-pin CLCC**

### Pin Descriptions

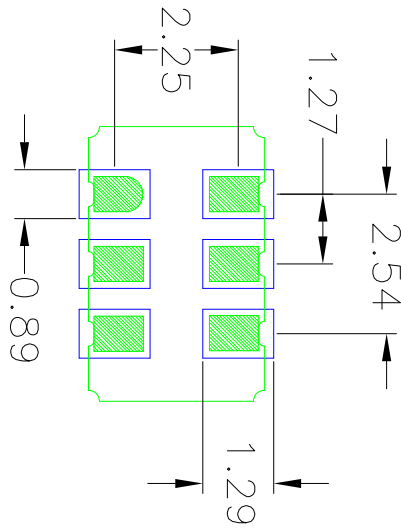
Pin Number	Pin Name	Description
1	NC	No connect
2	E/D	Enable/Disable <sup>1</sup> (0=Output Disabled)
3	GND	Connect to ground
4	OUT	Output
5	OUT2	Complementary output
6	VDD	Supply Voltage

1. Pulled high internally.

# JS6 Package Outline and Dimensions



# JS6 Package Outline and Dimensions (cont.)

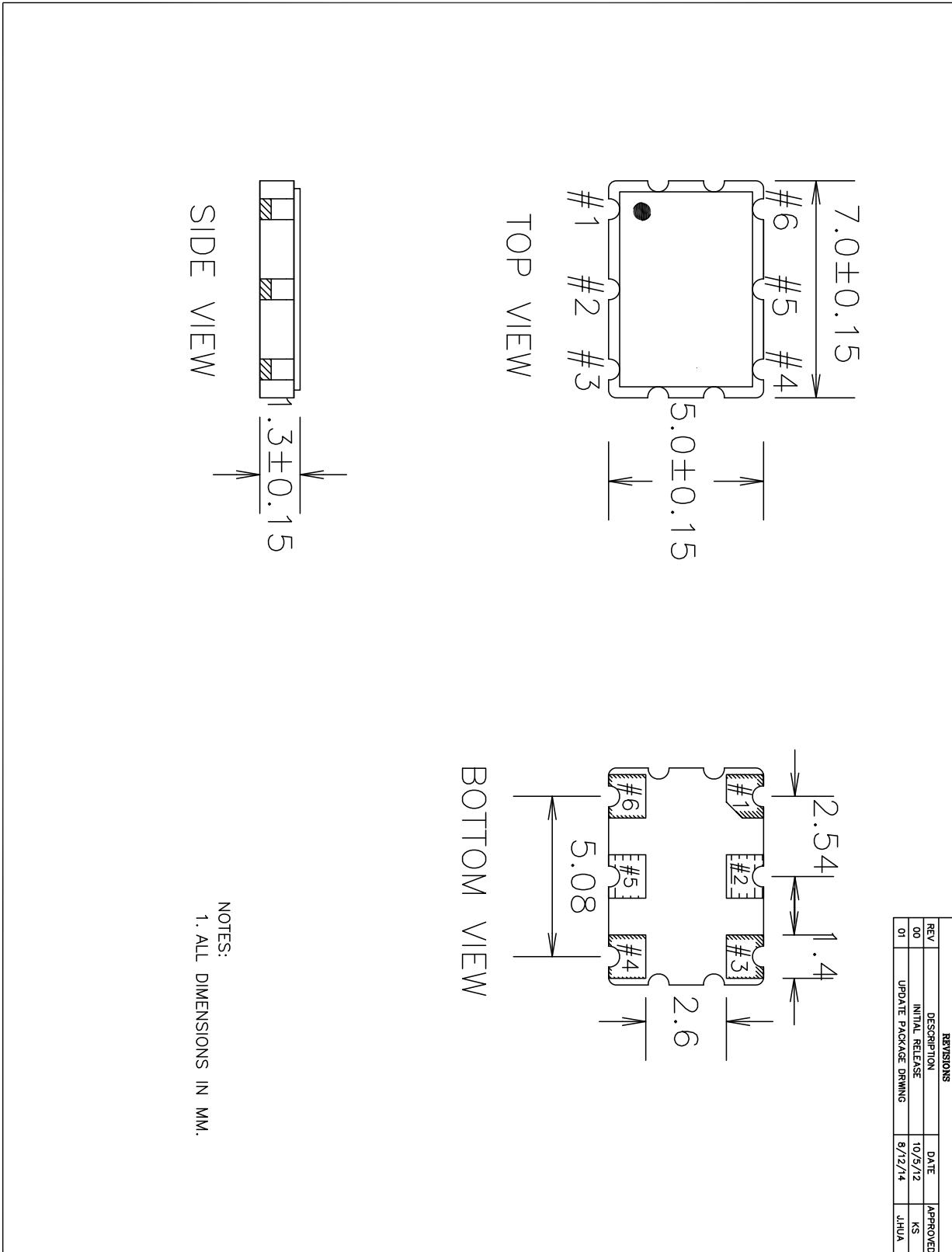


RECOMMENDED LAND PATTERN

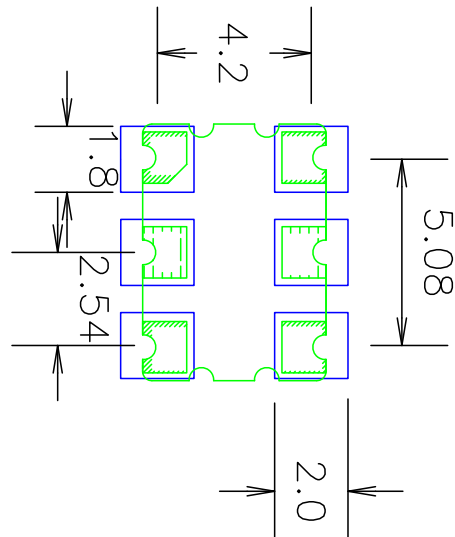
- NOTES:
1. ALL DIMENSION ARE IN mm. ANGLES IN DEGREES.
  2. TOP DOWN VIEW, AS VIEWED ON PCB.
  3. COMPONENT OUTLINE SHOW FOR REFERENCE IN GREEN.
  4. LAND PATTERN IN BLUE. NSMD PATTERN ASSUMED.
  5. LAND PATTERN RECOMMENDATION PER IPC-7351B GENERIC REQUIREMENT FOR SURFACE MOUNT DESIGN AND LAND PATTERN.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
00	INITIAL RELEASE	04/2/12	DP
01	ADDED LUD IN TOP VIEW	07/12/12	KS
02	UPDATED LUD TOLERANCES	12/03/12	KS
03	UPDATE PACKAGE DRAWING	8/8/14	JHUA

# JU6 Package Outline and Dimensions



# JU6 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.
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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	10/5/12	KS
01	UPDATE PACKAGE DRAWING	8/12/14	JHVA