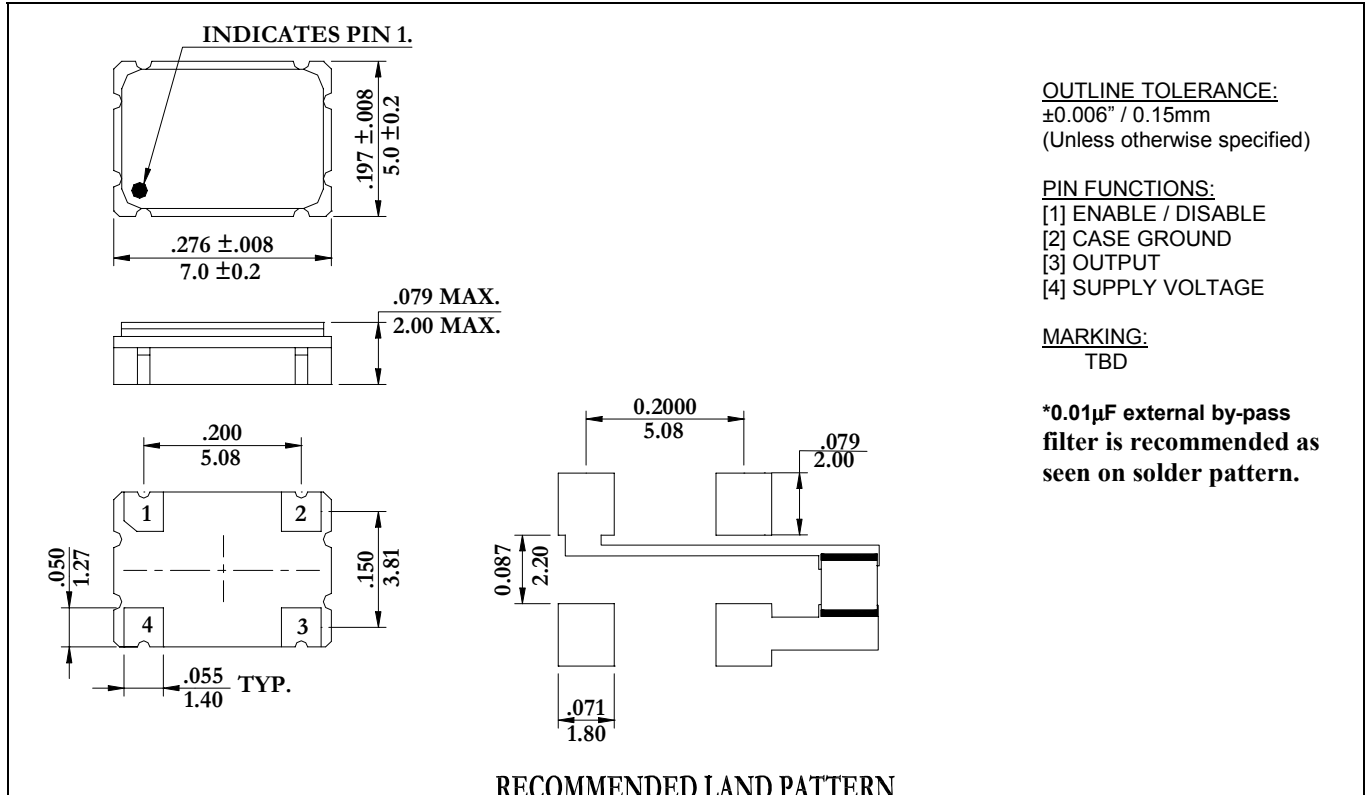


5X7 HCMOS CLOCK (see below for part numbering scheme)

■ APPROVALS

| | |
|--|-----------------------|
| RAMI | CUSTOMER |
| Eng. approval, date: LUIS 4/17/02 | Name (please print): |
| Sales approval, date: | Title (please print): |
| Created by, date: ALAN 4/17/02 | Signature, date: |
| Revision: ADDED NOTE 2 PAGE 2 (3/15/02), ADDED 2.7 AND 2.5VDC SUPPLY VOLTAGES (4/10/02); ADDED 2.2VDC SUPPLY ;FREQ. TABLE AND MOD P/N(4/30/03). | |

■ MECHANICAL SPECIFICATION



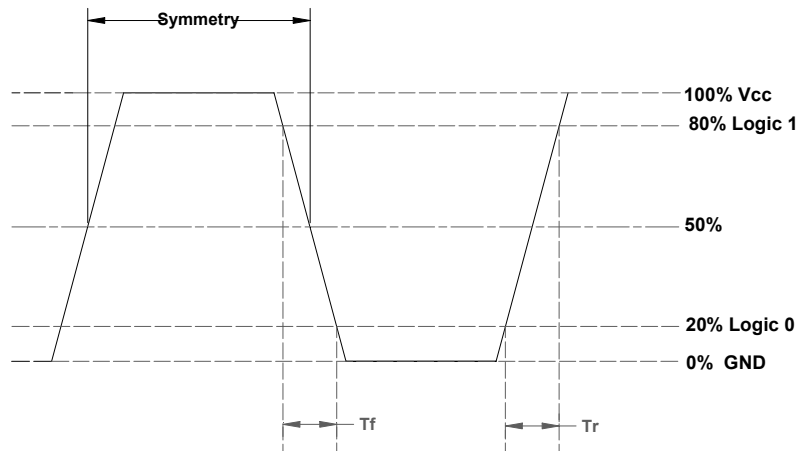
■ ELECTRICAL SPECIFICATION

| PARAMETER | SYMBOL | CONDITIONS | VALUE | UNIT |
|-------------------------------|-----------|--|----------------------------------|------|
| Frequency, nom | fo | - | 1.000~160.000 | MHz |
| Supply voltage, nom. | Vcc | Vcc±5% | SEE PART NUMBER GENERATION TABLE | V |
| Supply current, max. | Is | Vcc=nom., Ta=+25°C, load=15pF | 10.0...55.0 (see note A) | mA |
| HCMOS output levels | VOH / VOL | load=15pF, Vcc=nom. | 0.9•Vcc / 0.1•Vcc | V |
| Duty cycle | DC | load=15pF / @50%Vcc, Ta=+25°C | 45...55 or 40...60 | % |
| Rise- / fall time, max. | tr / tf | 20%~80% Vout, 80%~20% Vout | 1.5...10.0 (see note A) | ns |
| Jitter, rms, max. | J | 1σ, Fj = 12KHz...20MHz | 1.0 | ps |
| Overall freq. stability, max. | Δf/fc | Including temperature, 10 year aging, +/-5% load & supply variations, and calibration @ +25°C. | SEE PART NUMBER GENERATION TABLE | ppm |
| Enable option (pin 1) | En | High or open (min.) | 0.7•Vcc | V |
| Disable option (pin 1) | Dis | Ground (output pin high impedance) (max.) | 0.3•Vcc | V |
| Operating temperature range | Ta | Vcc=nom., Ta=+25°C, load=15pF | SEE PART NUMBER GENERATION TABLE | °C |
| Storage temperature range | T(stg) | - | -55...+125 | °C |
| Absolute voltage range | Vcc(abs) | Non-destructive, DC | -0.5...+7.0 | V |

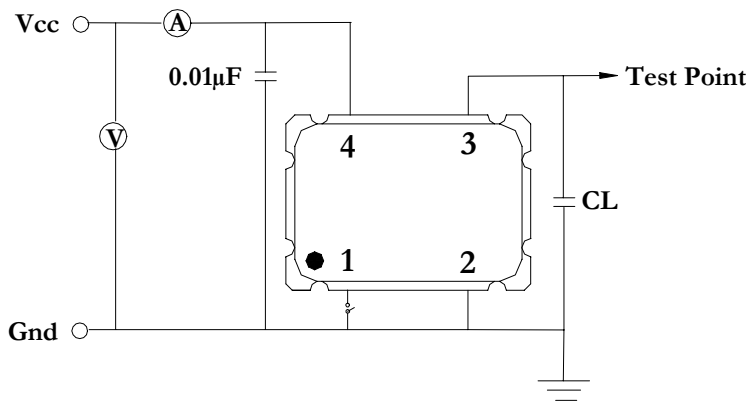
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NOTE A: SUPPLY CURRENT, RISE & FALL TIMES ARE FREQUENCY DEPENDENT.

WAVEFORM: LOAD = 15pF



RECOMMENDED TEST CIRCUIT WITH CMOS LOAD:



*CL (Capacitive Load): Includes the input capacitance of oscilloscope.
 **0.01µF external by-pass filter is recommended.

■ **PART NUMBER GENERATION**

| SERIES | SYMMETRY | TEMPERATURE RANGE (°C) | STABILITY (Overall) | FREQUENCY (MHz) | SUFFIX |
|---|------------------------------|--|---|--------------------------------------|--------|
| CS2: 5.0V HCMOS CS4: 3.3V HCMOS CSZ: 2.7V HCMOS CSY: 2.5V HCMOS CSX: 2.2V HCMOS | A: 40%...60% T: 45%...55% | R: 0...+50 S: 0...+70 U: -20...+70 V: -40...+85 | H: ±50 ppm J: ±100 ppm (See note below) | 1.000...156.250 (See table below) | 4 |

4/17/02 marketing-rfq, vxco, Cx90ns

| SERIES | FREQUENCY RANGE |
|-----------------|-------------------|
| CS2: 5.0V HCMOS | 1.000...107MHz |
| CS4: 3.3V HCMOS | 1.000...156.25MHz |
| CSZ: 2.7V HCMOS | 40...107MHz |
| CSY: 2.5V HCMOS | 1.000...40MHz |
| CSX: 2.2V HCMOS | 1.000...40MHz |

NOTE:

1. Variations from standard specification are available, please contact factory.

EXAMPLE: CS4TSH-155.520-4