

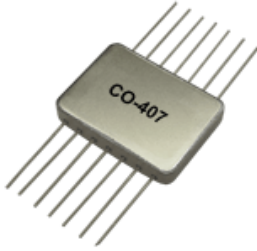


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CO-407 Custom Hybrid TTL Clock Oscillators



Features:

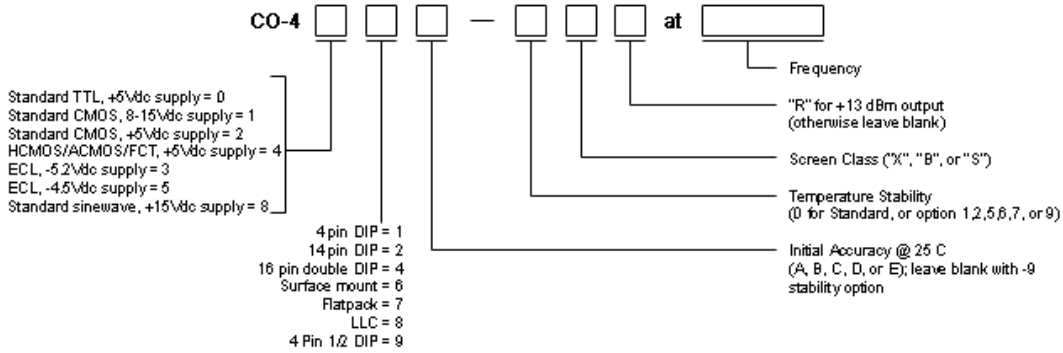
- Low Profile 14 Pin Flatpack
- Seam Welded Metal Can
- 3 Point Mount Crystal

| SPECIFICATIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|----------|---------|----------|---------|--------|--------|--------|---------|------------|-------|-------|-------|------------|-------|-------|-------|-------------------------------|-------|-------|-------|----------------------|-------|-------|-------|
| Series | CO-407: Flatpack | | | | | | | | | | | | | | | | | | | | | | | | |
| Frequency | 16 kHz-100 MHz | | | | | | | | | | | | | | | | | | | | | | | | |
| Supply | 5 Vdc ± 5% | | | | | | | | | | | | | | | | | | | | | | | | |
| Accuracy (at 25°C) | CO-407A ±50 ppm CO-407C ±25 ppm CO-407D ±15 ppm CO-407B ±10 ppm CO-407E ±1 ppm* <small>*Stability via external capacitor; 16 kHz-60 MHz only.</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Stability <small>Improved accuracy/stability available on some models. For example, for ±7 ppm over 0°C to +50°C and for ±10ppm over 0°C to +70°C. Improvement is also available over wider temperature ranges. Please contact factory.</small> | STANDARD: 0°C to +70°C: ±25 ppm Option 1: -55°C to +85°C: ±50 ppm Option 2: -55°C to +125°C: ±50 ppm Option 5: 0°C to +50°C: ±5 ppm Option 6: 0°C to +50°C: ±10 ppm Option 7: -55°C to +125°C: ±100 ppm *Option 9: -55°C to +200°C: ±300 ppm <small>(Option 9: Only for CO-401/2/6/7 series in 4-20 MHz range) *Specified stability includes initial accuracy; do not specify A,B,C,D or E accuracy.</small> | | | | | | | | | | | | | | | | | | | | | | | | |
| Aging Rate (typical after 30 days) | 3 ppm first year 2 ppm/year thereafter | | | | | | | | | | | | | | | | | | | | | | | | |
| Case | seam welded metal case | | | | | | | | | | | | | | | | | | | | | | | | |
| Output | <table border="0"> <tr> <td>Output:</td> <td><4 MHz</td> <td>4-20 MHz</td> <td>>20 MHz</td> </tr> <tr> <td>Drive:</td> <td>10 TTL</td> <td>10 TTL</td> <td>10 STTL</td> </tr> <tr> <td>"0" Level:</td> <td><0.4V</td> <td><0.4V</td> <td><0.4V</td> </tr> <tr> <td>"1" Level:</td> <td>>2.4V</td> <td>>2.4V</td> <td>>2.4V</td> </tr> <tr> <td>Rise/Fall Time: (0.5-2.4V)</td> <td><15ns</td> <td><15ns</td> <td>2-5ns</td> </tr> <tr> <td>Symmetry: at 1.5V</td> <td>55/45</td> <td>60/40</td> <td>60/40</td> </tr> </table> <small>If improved symmetry is required, please contact factory.</small> | Output: | <4 MHz | 4-20 MHz | >20 MHz | Drive: | 10 TTL | 10 TTL | 10 STTL | "0" Level: | <0.4V | <0.4V | <0.4V | "1" Level: | >2.4V | >2.4V | >2.4V | Rise/Fall Time: (0.5-2.4V) | <15ns | <15ns | 2-5ns | Symmetry: at 1.5V | 55/45 | 60/40 | 60/40 |
| Output: | <4 MHz | 4-20 MHz | >20 MHz | | | | | | | | | | | | | | | | | | | | | | |
| Drive: | 10 TTL | 10 TTL | 10 STTL | | | | | | | | | | | | | | | | | | | | | | |
| "0" Level: | <0.4V | <0.4V | <0.4V | | | | | | | | | | | | | | | | | | | | | | |
| "1" Level: | >2.4V | >2.4V | >2.4V | | | | | | | | | | | | | | | | | | | | | | |
| Rise/Fall Time: (0.5-2.4V) | <15ns | <15ns | 2-5ns | | | | | | | | | | | | | | | | | | | | | | |
| Symmetry: at 1.5V | 55/45 | 60/40 | 60/40 | | | | | | | | | | | | | | | | | | | | | | |

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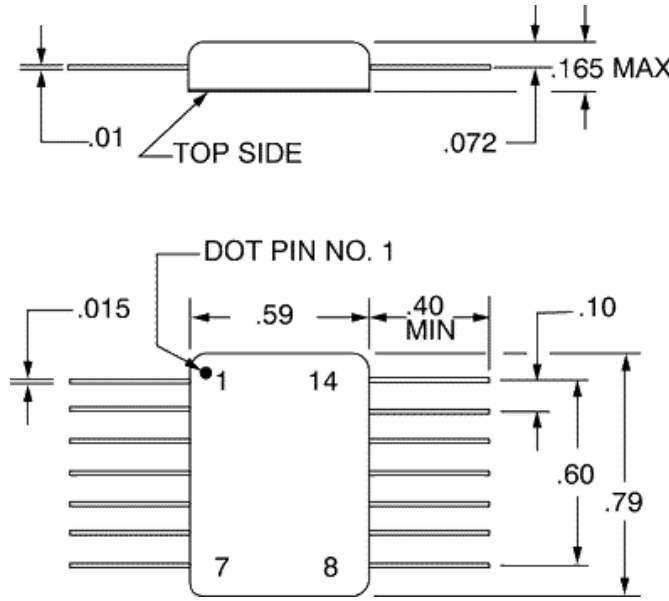
How to Order Hybrid XO's - CO-400 Series

(Note: Not all combinations possible. See above for appropriate options.)



| SCREEN TESTING OF ABOVE MODELS | | | | | |
|---|--------------------|------------------|---------|---------|---|
| SCREEN TEST | MIL-STD-883 METHOD | Standard Options | | | |
| | | CLASS X | CLASS D | CLASS B | CLASS S |
| Stabilization Bake (150°C) | — | X | X | X | Class S screen test requirements include 24 hour additional bake-out, 80 hour additional burn-in, thermal shock, PIND test and radiographic inspection in addition to Class B Screening. Has major cost impact. |
| Seal Test (Gross and Fine) | 1014, Cond A2 | X | X | X | |
| Temperature Cycling (Thermal Shock) | 1010, Cond B | | X | X | |
| Burn-in, operating 160 hours @125°C | — | | X | X | |
| Acceleration (5000g in Y ₁ axis) | 2001, Cond A | | | X | |

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Dimension in inches

Pinouts

| Pin | Function |
|-----|---------------|
| 1 | *N/C |
| 7 | OV, case, gnd |
| 8 | Output |
| 14 | +5V |

Other N/C

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