

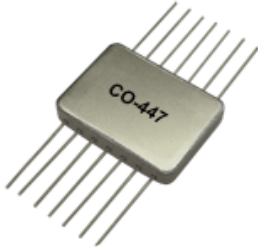


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## CO-447 HCMOS, AC MOS and FCT Clock Oscillators



### Features:

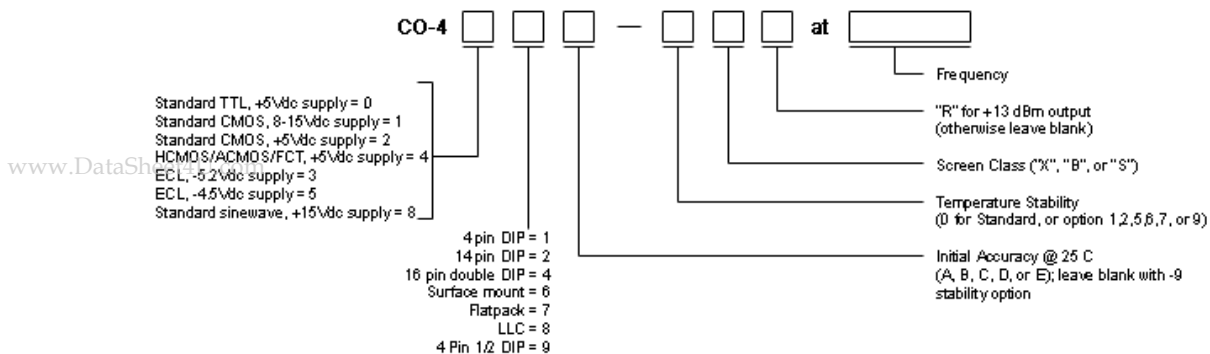
- 1 Hz to 175 MHz Frequency Range
- Low Profile 14 Pin Flatpack
- HCMOS/ACMOS/FCT/ACT Compatible
- Tri-state Output Available
- Available with 3.3 Vdc input below 20 MHz

SPECIFICATIONS																													
Series	CO-447: Flatpack																												
Frequency	1 Hz-175 MHz																												
Supply	5 Vdc $\pm$ 5% (Available with 3.3 Vdc input below 20 Mhz)																												
Accuracy (Maximum Error at 25°C)	CO-447A $\pm$ 50 ppm CO-447C $\pm$ 25 ppm CO-447D $\pm$ 15 ppm CO-447B $\pm$ 10 ppm CO-447E $\pm$ 1 ppm* <small>*Settability via external capacitor; (&lt;60 MHz only; except 449E <math>\leq</math>20 MHz)</small>																												
Temperature Stability <small>Improved accuracy/stability available on some models. For example, for <math>\pm</math>7 ppm over 0°C to +50°C and for <math>\pm</math>10ppm over 0°C to +70°C. Improvement is also available over wider temperature ranges. Please contact factory.</small>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>STANDARD:</b></td> <td style="width: 15%;">0°C</td> <td style="width: 15%;">to +70°C:</td> <td style="width: 55%;"><math>\pm</math>25 ppm</td> </tr> <tr> <td>Option 1:</td> <td>-55°C</td> <td>to +85°C:</td> <td><math>\pm</math>50 ppm</td> </tr> <tr> <td>Option 2:</td> <td>-55°C</td> <td>to +125°C:</td> <td><math>\pm</math>50 ppm</td> </tr> <tr> <td>Option 5:</td> <td>0°C</td> <td>to +50°C:</td> <td><math>\pm</math>5 ppm</td> </tr> <tr> <td>Option 6:</td> <td>0°C</td> <td>to +50°C:</td> <td><math>\pm</math>10 ppm</td> </tr> <tr> <td>Option 7:</td> <td>-55°C</td> <td>to +125°C:</td> <td><math>\pm</math>100 ppm</td> </tr> <tr> <td>*Option 9:</td> <td>-55°C</td> <td>to +200°C:</td> <td><math>\pm</math>300 ppm</td> </tr> </table> <p>(Option 9: N/A in CO-448 or above 20 MHz in CO-440 Series) *Specified stability includes initial accuracy; do not specify A,B,C,D or E accuracy.</p>	<b>STANDARD:</b>	0°C	to +70°C:	$\pm$ 25 ppm	Option 1:	-55°C	to +85°C:	$\pm$ 50 ppm	Option 2:	-55°C	to +125°C:	$\pm$ 50 ppm	Option 5:	0°C	to +50°C:	$\pm$ 5 ppm	Option 6:	0°C	to +50°C:	$\pm$ 10 ppm	Option 7:	-55°C	to +125°C:	$\pm$ 100 ppm	*Option 9:	-55°C	to +200°C:	$\pm$ 300 ppm
<b>STANDARD:</b>	0°C	to +70°C:	$\pm$ 25 ppm																										
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Option 7:	-55°C	to +125°C:	$\pm$ 100 ppm																										
*Option 9:	-55°C	to +200°C:	$\pm$ 300 ppm																										
Aging Rate (typical after 30 days)	3 ppm first year 2 ppm/year thereafter																												

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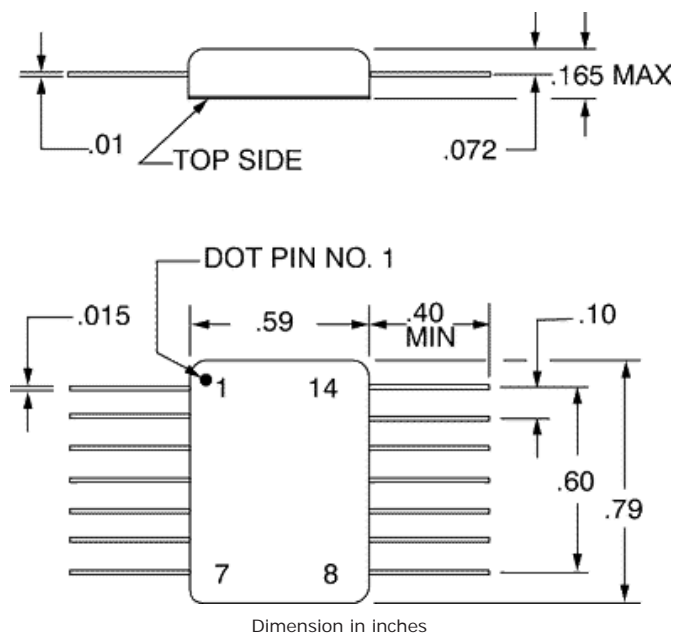
### How to Order Hybrid XO's - CO-400 Series

(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 <sub>1</sub> axis)	2001, Cond A			X	

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**Pinouts**

Pin	Function
1	*N/C
7	OV, case, gnd
8	Output
14	Supply +
Other	N/C

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