

CCLD-024 Model
5×7 mm SMD, 2.5V, LVDS



Model CCLD-024 is a 162.000MHz to 312.500MHz LVDS Clock Oscillator operating at 2.5Volts. The oscillator utilizes a High Q Third Overtone crystal design providing very low Jitter and Phase Noise. No Sub-Harmonics are present in the Output Signal.



5×7mm SMD

Applications:

Digital Video
SONET/SDH/DWDM
Storage Area Networks
Broadband Access
Ethernet, Gigabit Ethernet

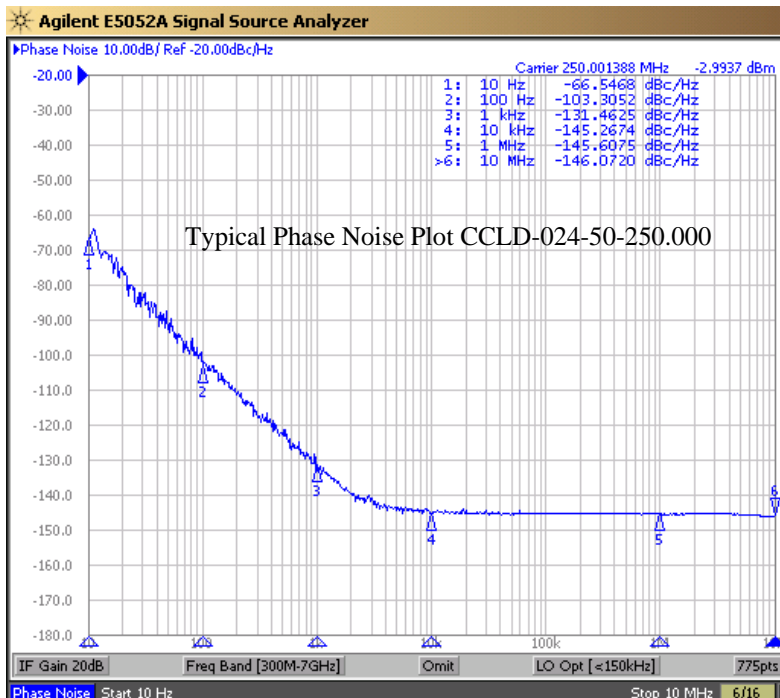
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| | |
|--|--|
| Frequency Range: | 162.000MHz to 312.500MHz |
| Frequency Stability Options(ppm): | ±20, ±25, ±50, ±100 |
| Temperature Range: | (standard) 0°C to +70°C |
| (Option M) | -20°C to +70°C |
| (Option X) | -40°C to +85°C |
| Storage: | -45°C to 90°C |
| Input Voltage: | 2.5V ± 0.125V |
| Input Current: | 43mA Typ., 63mA Max |
| Output: | Differential LVDS |
| Symmetry: | 45/55% Max @ 50% Vdd |
| Rise/Fall Time: | 1nsec Max @ 20% to 80% Vdd |
| Load: | 100 Ohms Connected between OUT and COUT |
| Logic: | |
| Output Voltage Levels | “0”=0.90 Min., 1.10 Typ. |
| | “1”=1.43 Typ., 1.60 Max |
| Differential Output Voltage: | 247mV Min., 454mV Max |
| Disable Time: | 200nSec Max |
| Enable Time: | 2mSec Max |
| Phase Jitter: 12kHz~80MHz | 0.5psec Typ., 1psec RMS Max |
| Phase Noise: (See Plot Below) | |
| Sub-harmonics: | None |
| Aging: | <3ppm 1st/yr, <1ppm every year thereafter |



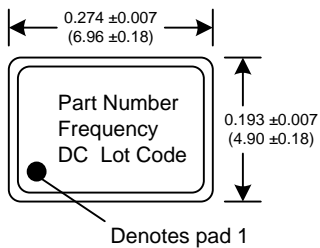
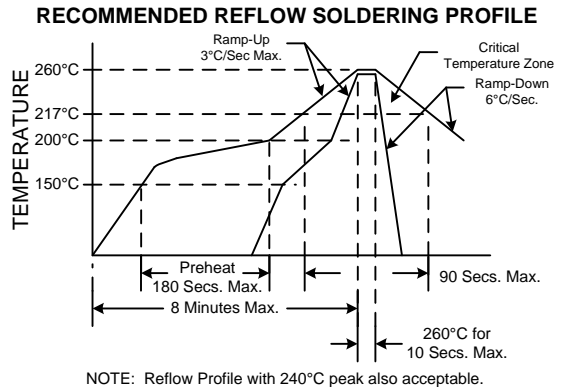
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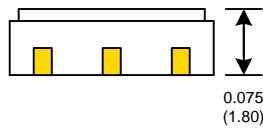
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| Crystek Part Number Guide | | | | | | | | | | | | | | | | |
|--|----------|----|---|----|---------------------|--|-------|----------|----|---------|----|---------|-----|---------|--------------------------|--|
| CCLD - 024 X - 50 - 250.000 | | | | | | | | | | | | | | | | |
| #1 | #2 | #3 | #4 | #5 | | | | | | | | | | | | |
| #1 Crystek LVDS Osc. #2 Model 024 #3 Temp Range: Blank = 0/70°C, M = -20/70°C, X = -40/85°C #4 Stability: (see Table 1) #5 Frequency in MHz: 3 or 6 decimal places | | | | | | | | | | | | | | | | |
| Example: CCLD-024X-50-250.000 2.5V, -40/85°C, ±50ppm, 250.000 MHz | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th colspan="2">Stability Indicator</th> </tr> </thead> <tbody> <tr> <td>Blank</td> <td>± 100ppm</td> </tr> <tr> <td>50</td> <td>± 50ppm</td> </tr> <tr> <td>25</td> <td>± 25ppm</td> </tr> <tr> <td>20*</td> <td>± 20ppm</td> </tr> <tr> <td colspan="2">*not available in -40/85</td> </tr> </tbody> </table> | | Stability Indicator | | Blank | ± 100ppm | 50 | ± 50ppm | 25 | ± 25ppm | 20* | ± 20ppm | *not available in -40/85 | |
| Stability Indicator | | | | | | | | | | | | | | | | |
| Blank | ± 100ppm | | | | | | | | | | | | | | | |
| 50 | ± 50ppm | | | | | | | | | | | | | | | |
| 25 | ± 25ppm | | | | | | | | | | | | | | | |
| 20* | ± 20ppm | | | | | | | | | | | | | | | |
| *not available in -40/85 | | | | | | | | | | | | | | | | |
| | | | Table 1 | | | | | | | | | | | | | |

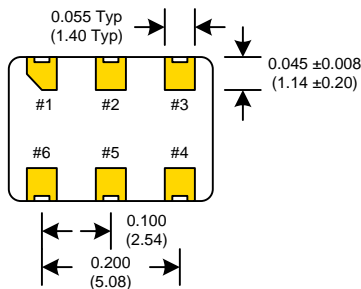
| Mechanical: | |
|-------------------------------|---|
| Shock: | MIL-STD-883, Method 2002, Condition B |
| Solderability: | MIL-STD-883, Method 2003 |
| Vibration: | MIL-STD-883, Method 2007, Condition A |
| Solvent Resistance: | MIL-STD-202, Method 215 |
| Resistance to Soldering Heat: | MIL-STD-202, Method 210, Condition I or J |
| Environmental: | |
| Thermal Shock: | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance: | MIL-STD-883, Method 1004 |



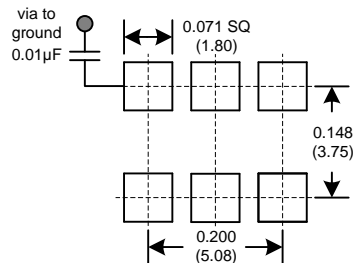
Dimensions inches (mm)
All dimensions are Max unless otherwise specified.



| Tristate Function | |
|-----------------------|------------|
| Function pin 1 | Output pin |
| Open or N/C | Active |
| "1" level 0.7xVdd Min | Active |
| "0" level 0.3xVdd Max | High Z |



SUGGESTED PAD LAYOUT



0.01µF Bypass Capacitor Recommended

| PIN | Connection |
|-----|----------------|
| 1 | Enable/Disable |
| 2 | N/C |
| 3 | GND |
| 4 | Output |
| 5 | Comp Output |
| 6 | Vcc |

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