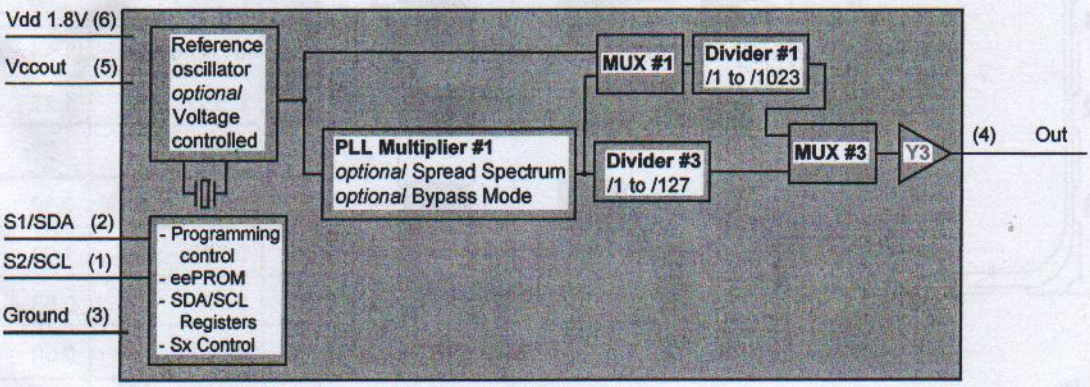
PLETRONICS
www.pletronics.com 425-776-1880

# FD55T Series Programmable CMOS Clock Oscillator

February 2008

- Pletronics' FD55T Series is a quartz crystal controlled precision square wave generator with a programmable CMOS output
- Output frequency from 12 KHz to 230 MHZ
- Selectable low jitter or spread spectrum output.
- 3.2 x 5 mm LCC Ceramic Package
- Low power

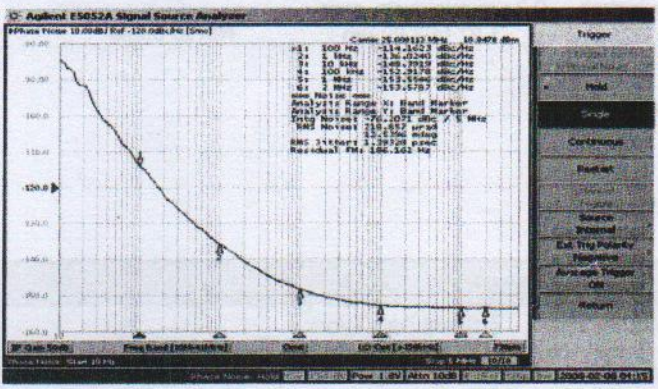



For convenience, the divider for output OUT characteristics may be pre-programmed at the factory, or field programmed.

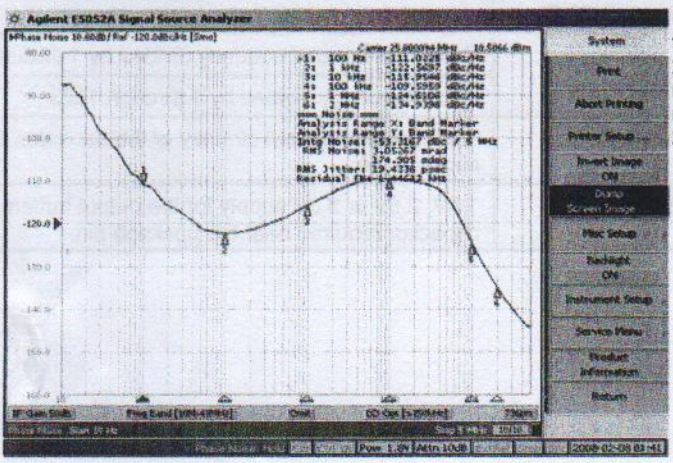
The FD55T has a separate output supply pin, $V_{ccout}$, for either 1.8, 2.5 or 3.3V output logic levels. The device supply, $V_{DD}$ which provides power to all the internal circuits, is nominally 1.8V. Will drive 50 ohm loads.

The PLL supports Spread Spectrum Clocking (SSC). SSC may be programmed to be either center-spread or down-spread. This is an important technique to reduce electro-magnetic interference (EMI).

The device supports non-volatile eePROM programming for easy customization of the device.




Phase noise of the 25MHz reference oscillator as the output with the PLL off




Phase noise of the output, 25MHz reference multiplied to 200MHz and /8

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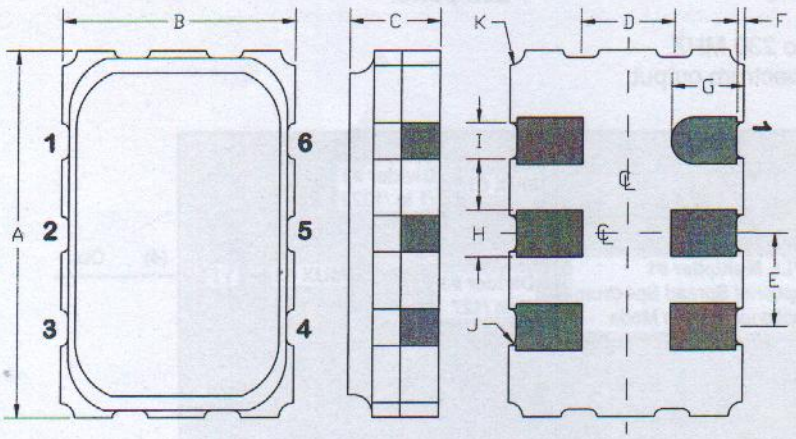
## Mechanical:




| | Inches | mm |
|---|---|---|
| A | 0.197 ±0.006 | 5.00 ±0.15 |
| B | 0.125 ±0.006 | 3.20 ±0.15 |
| C | 0.053 max | 1.35 max |
| D[1] | 0.050 | 1.27 |
| E[1] | 0.050 | 1.27 |
| F[1] | 0.004 | 0.10 |
| G[1] | 0.039 | 1.00 |
| H[1] | 0.025 | 0.63 |
| I[1] | 0.020 | 0.50 |
| J[1] | 0.004R | 0.10R |
| K[1] | 0.008R | 0.20R |

Contacts:
Gold 11.8 µinches 0.3 µm minimum over
Nickel 50 to 350 µinches 1.27 to 8.89 µm

[1] Typical dimensions

Not to Scale

## Pad Functions:

| Pad | Function | Note | | |
|---|---|---|---|---|
| 1 | S1/SDA | Serial Data Clock | S2 | Input to select 1 of 4 preprogrammed functions of the outputs |
| 2 | S2/SCL | Serial Data | S1 | |
| 3 | Ground (GND) | | | |
| 4 | Out (Y3) | Crystal reference frequency divided by 1 through 1023 | | |
| | | PLL1 frequency divided by 1 through 1023 | | |
| 5 | Vsupply1 | 1.8V, powers internal circuitry of the oscillator. Bypass capacitor required near the package pin. | | |
| 6 | Vsupply2 | 1.8V, 2.5V or 3.3V supply for the output buffers. Sets CMOS output level. Bypass capacitor required near the package pin. | | |