

# VN01-Series Specifications



**36.20L x 27.18W x 16.81H (mm)**

**1.425L x 1.070W x 0.662H (in)**

PDI VN01-Series Oven Controlled Crystal Oscillators (OCXO) ensures precise frequency under the most demanding circumstances. With low phase noise, performance in high vibration environments, and double-hermetically sealed quartz crystal, this OCXO can also be made available in custom frequencies. PDI provides fast sampling for your proto-typing needs, mass production capability, and competitive pricing.

ex) **VN01—12000X—C—R—D—5—XX\***

## FREQUENCY

**10000X – 50000X =**  
10.000MHz – 50.000MHz

## OUTPUT

**C** = TTL/CMOS  
**O** = LVCMOS  
**W** = Sinewave

## FREQUENCY STABILITY

**O** = +/-5 PPB \*\*  
**P** = +/-10 PPB  
**Q** = +/-20 PPB  
**R** = +/-50 PPB  
**T** = +/-100 PPB  
**S** = Special

## OPERATING TEMPERATURE

**A** = 0 to +70°C  
**B** = -20 to +70°C  
**F** = -20 to +90°C  
**D** = -40 to +85°C  
**G** = -40 to +90°C  
**S** = Special

## SUPPLY VOLTAGE

**5** = 5.0  
**12** = 12.0  
**15** = 15.0  
**28** = 28.0

\*\* - Only available with A and B Operating Temperature Options.

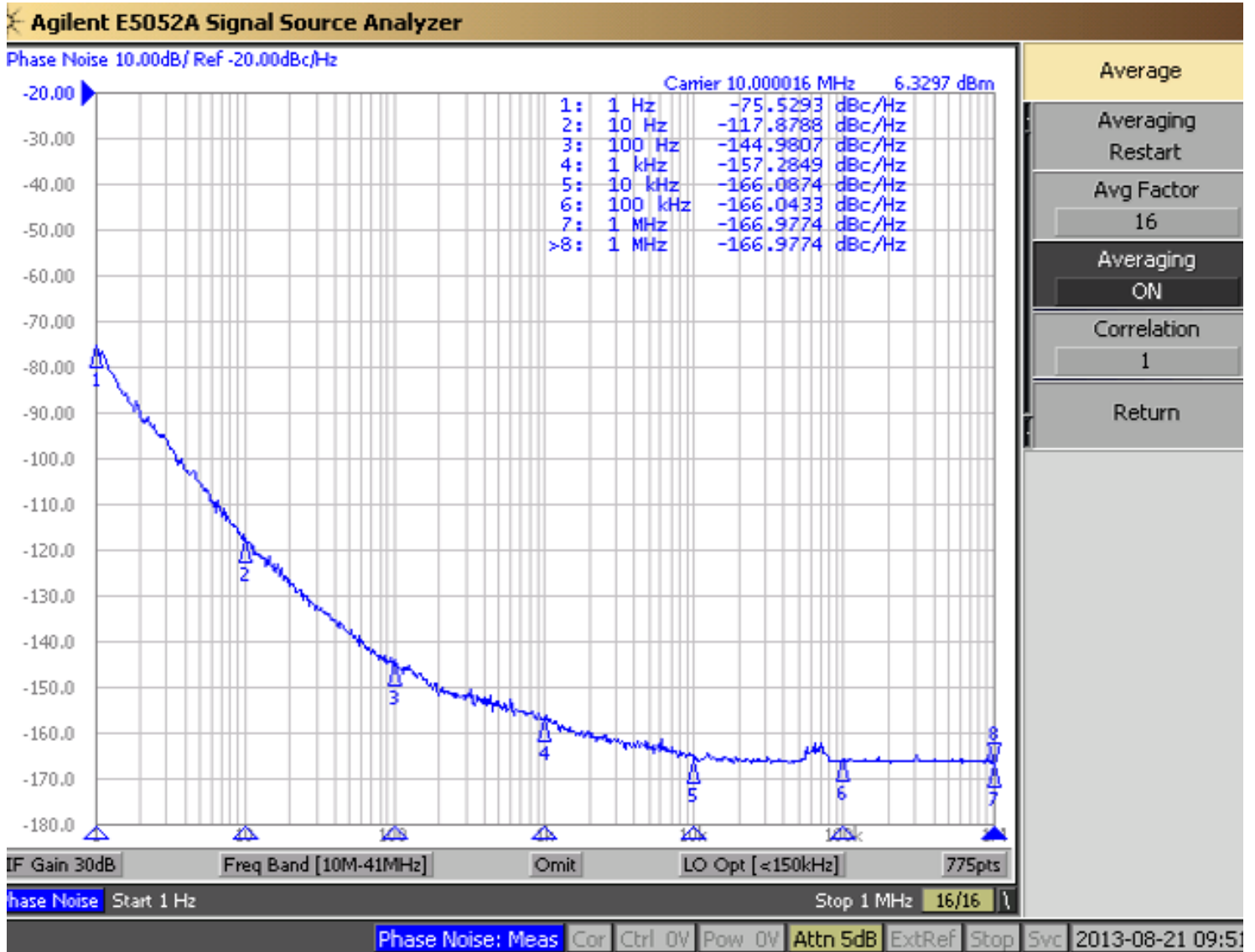
\* - for standard or assigned for customization.

| Parameter                                 |   | Supply Voltage Range (±5%) | Units  |
|---|---|----------------------------|--------|
|   |   | 5.0 to 28.0                | V      |
| Frequency Range                           |   | 10.000000 to 50.000000     | MHz    |
| Frequency Stability                       | vs Temperature (Max.)                                     | Per Option                 | ppb    |
|   | vs Supply Voltage (Max. for a 5% charge)                  | ±2.0                       |        |
|   | vs Load (Max. for a 10% charge)                           | ±2.0                       |        |
|   | vs Aging (Max. per year)                                  | ±200                       |        |
|   | Calibration (@ +25°C)<br>3 Minutes After Switch On (Max.) | ±100                       |        |
| Temperature Range                         | Operating   | Per Option                 | °C     |
|   | Storage   | -55 to +85                 |        |
| Frequency Adjustment                      | Frequency Tuning (Min.)                                   | ±500                       | ppb    |
|   | Voltage Control Range                                     | 0.0 to Vref                | V      |
|   | Reference Voltage Output (±2.0%)                          | +5.0                       | V      |
|   | Slope   | Monotonic and Positive     |        |
|   | Linearity (Max.)  | 10                         | %      |
| Supply Power                              | During 3 Minutes After Switch On (Max.)                   | 6.0                        | W      |
|   | Steady State @ 25°C (Max.)                                | 2.5                        | W      |
| Output                                    | TTL/CMOS or LVCMOS  | 5.0                        | V      |
|   | Sinewave  | 0.0 to 6.0                 | dBm    |
| Load (±10%)                               | TTL/CMOS or LVCMOS  | 15                         | pF     |
|   | Sinewave  | 50                         | Ω      |
| Phase Noise (Typical)<br>(10MHz @ +12Vdc) | @ 1 Hz  | -77                        | dBc/Hz |
|   | @ 10 Hz   | -118                       |        |
|   | @ 100 Hz  | -144                       |        |
|   | @ 1 kHz   | -156                       |        |
|   | @ 10 kHz  | -164                       |        |
|   | @ 100KHz  | -165                       |        |

VN01-Series 36.20 x 27.18 x 16.00 (mm)



## PHASE NOISE PLOT



### NOTES:

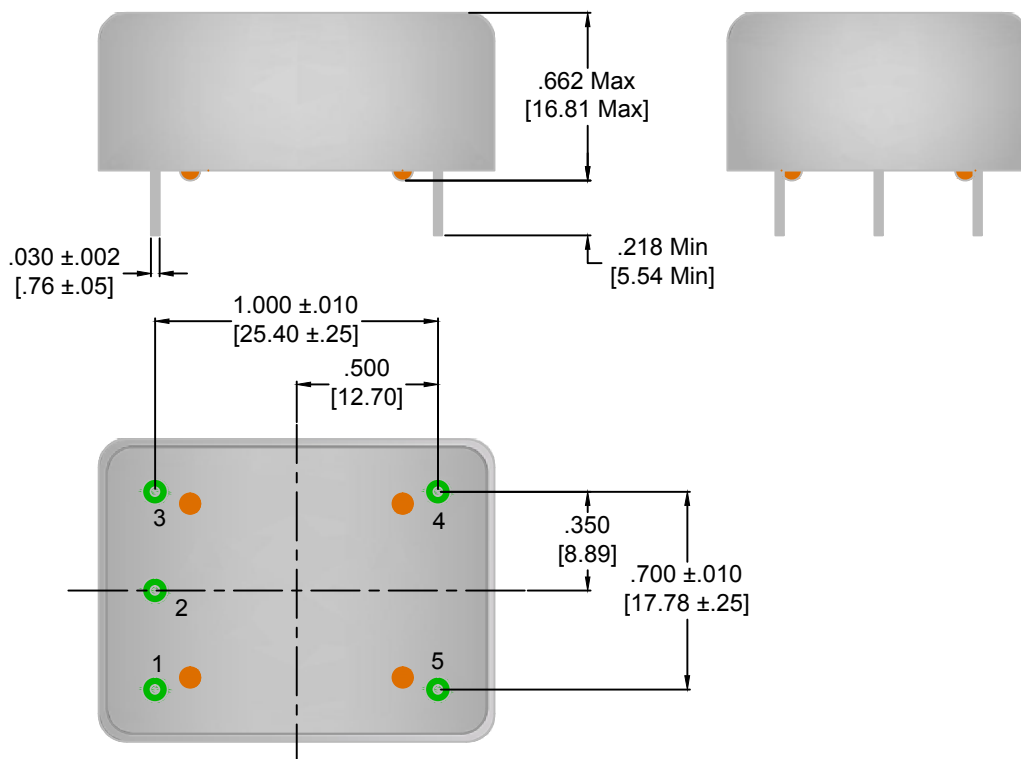
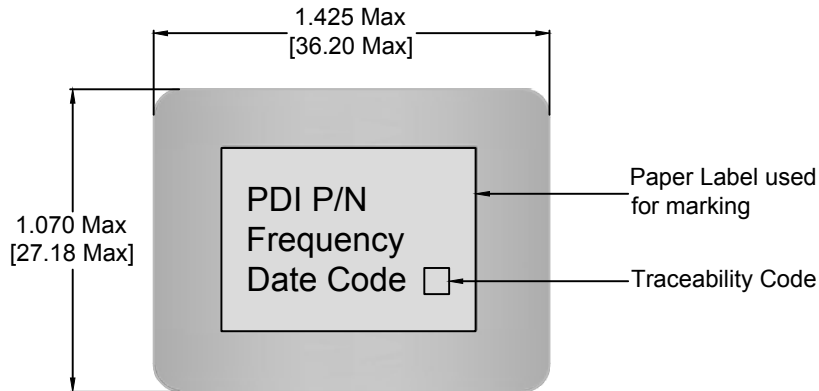
All product supplied in anti-static packaging.  
All product is supplied RoHS and REACH compliant.  
All tests are performed in Still Air test conditions, unless otherwise stated.  
Specifications subject to change without notice, last updated 4/1/13.

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## PACKAGE DIMENSIONS

Decimal XXX =  $\pm .008$ , XX =  $\pm .02$  Metric [XXX =  $\pm .20$ ], [XX =  $\pm .50$ ]

| PIN | CONNECTION         |
|-----|--------------------|
| 1   | EFC or No Connect  |
| 2   | Vref or No Connect |
| 3   | Supply Voltage     |
| 4   | Output             |
| 5   | Ground/Case        |



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