

EXO-3

CMOS水晶発振器 / CMOS Crystal Oscillator

■特長 / Features

- 分周機能付きですので、 $1/2 \sim 1/2^8(1/256)$ 分周波が得られます。
- 分周出力のシンメトリーは、 $50 \pm 2\%$ 以内です。
- 発振起動時間は、2 msec.以下の早い起動特性です。
- 端子配列は、DIP 8PIN、自動実装可能です。
- Since it has a frequency dividing function, it is able to obtain a frequency division of $1/2-1/2^8(1/256)$.
- The symmetry of frequency divided output is within 50 plus/minus 2%.
- The oscillation start time has the fast starting characteristic of being 2msec. or less.
- The pin arrangement is DIP 8PIN that can be automatically mounted.



■仕様 / Specifications

| 項目 Item | 型名 Type | EXO-3 | |
|---------------------------------------|---------|---|--------------------------|
| 周波数範囲 Frequency Range | | 12~24.576MHz | 30~32MHz |
| 標準周波数 Standard Frequency | | Table 1 | |
| 出力周波数偏差 Frequency Stability | | $\pm 100 \times 10^{-6}$ | $\pm 150 \times 10^{-6}$ |
| 動作温度範囲 Operating Temperature Range | | -10~+70°C | |
| 保存温度範囲 Storage Temperature Range | | -40~+85°C | |
| 電源電圧 Supply Voltage | | 5V \pm 0.5V | |
| 電源電流 Current | | 20mA MAX. | |
| 負荷 Load | | 50pF | 15pF |
| 出力電圧 Output Level | | V _{OH} : V _{DD} -0.5V/V _{OL} : 0.5V MAX. | |
| シンメトリー Output Symmetry | | 40~60% | |
| 波形立ち上がり / 立ち下がり時間 Rise Time/Fall Time | | 15ns MAX. | |
| 起動時間 Start-up Time | | 1.5ms MAX. | 2 ms MAX. |
| 振動 Vibration | | 10-55Hz Amplitude 1.5mm, 50-2000Hz Amplitude 20G Cycle 1 minute, 3 direction, 1 hour each | |
| 衝撃 Shock | | 1000G | |
| 重量 Weight | | 0.6g | |

■Table 1

原振周波数 / Original Frequencies

| 周波数 Frequency (MHz)1/2 ⁰ | |
|-------------------------------------|-----------|
| 12.000 | 17.734476 |
| 12.288 | 18.432 |
| 12.800 | 19.0909 |
| 14.31818 | 19.200 |
| 14.500 | 19.6608 |
| 14.7456 | 20.000 |
| 14.9105 | 20.48 |
| 15.000 | 21.47727 |
| 15.360 | 22.000 |
| 15.9744 | 22.1184 |
| 16.000 | 24.000 |
| 16.128 | 24.576 |
| 16.257 | 30.000 |
| 16.384 | 32.000 |

■端子接続 / Pin connection

(Divider Select)

(OUTPUT)

| | | | |
|-------|--|-------|--|
| 1.F | 内部水晶の原振周波数 (fo)を出力します。 | 1.F | Outputs the original frequency (fo) of the internal quartz crystal. |
| 2.D | プログラムした分周比の周波数 (fo/2 ⁿ)を出力します。 | 2.D | Outputs the frequency of programmed dividing ratio (fo/2 ⁿ). |
| 3.ST | Hiレベルで発振、Loレベルで発振停止させることができます。この機能を必要としない場合は、必ずHiレベルにしてください。 | 3.ST | Possible to be oscillated when set to HIGH level and stopped in oscillation when set to LOW level. when this function is not needed, be sure to set the STANDBY pin to the HIGH level. |
| 4.GND | | 4.GND | |
| 5.A | | 5.A | |
| 6.B | 原振周波数に対する分周比をプログラムします。 | 6.B | Used to program the dividing ratio for the original frequency. |
| 7.C | | 7.C | |
| 8.VDD | 電源電圧 | 8.VDD | Supply voltage |

■分周出力の設定 /

Settings of the frequency division output

| Input | | | | Output | |
|--------|----|---|---|-----------------------------|-----------------------------|
| Select | ST | | | F | D |
| C | B | A | | 原振周波数 Original Frequency | 分周波 Divided Wave form |
| L | L | L | H | fo clock | fo · 1/2 clock |
| L | L | H | H | fo clock | fo · 1/2 ² clock |
| L | H | L | H | fo clock | fo · 1/2 ³ clock |
| L | H | H | H | fo clock | fo · 1/2 ⁴ clock |
| H | L | L | H | fo clock | fo · 1/2 ⁵ clock |
| H | L | H | H | fo clock | fo · 1/2 ⁶ clock |
| H | H | L | H | fo clock | fo · 1/2 ⁷ clock |
| H | H | H | H | fo clock | fo · 1/2 ⁸ clock |
| - | - | - | L | L | L |

■外形寸法図 / Outline

EXO-3

Dimensions(mm)