

Description

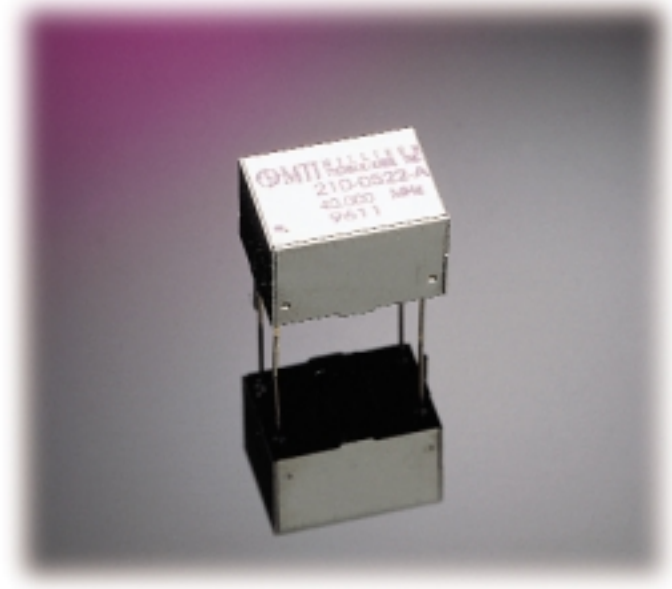
The 210 Series is an ideal replacement for any 14-pin DIP clock oscillator or TCXO where superior performance is required. The 210 Series offers ovenized performance with a thermal stability of 5.0E-07 over 100°C temperature range and 0.70W continuous power consumption @ 25°C. The low power consumption makes the 210 Series ideal for instrumentation, point-to-point wireless, and battery powered applications.

Features

- STRATUM III Performance
- Low Phase Noise
- Low Power Consumption
- 14-Pin DIP Package

Applications

- STRATUM III, IIIe Telephony
- Microwave Radios
- V-SAT Terminals
- GPS Receivers
- SONET Clocks
- Instrumentation



| Performance Range | |
|-----------------------|--------------------------------|
| Parameters | Available Range |
| Frequency | 32 KHz to 120 MHz |
| Thermal Stability | 1.00E-07 to 1.00E-06 |
| Operating Temperature | -40°C to +85°C |
| Output | HCMOS/ACMOS 0 to +9dBm Sine |
| Supply Voltage | +5 to +15V (DC) |
| Tuning Voltage | +0.50 to +10V (DC) |

Design Note:

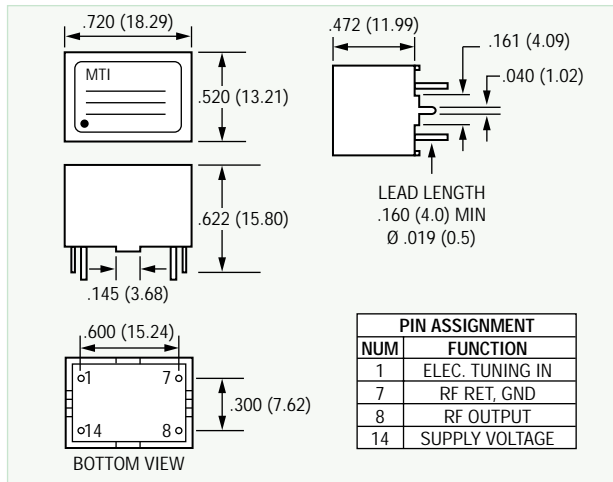
Base Models can be customized to your specifications using the performance range for this series.

210 Series Base Model Performance Guide

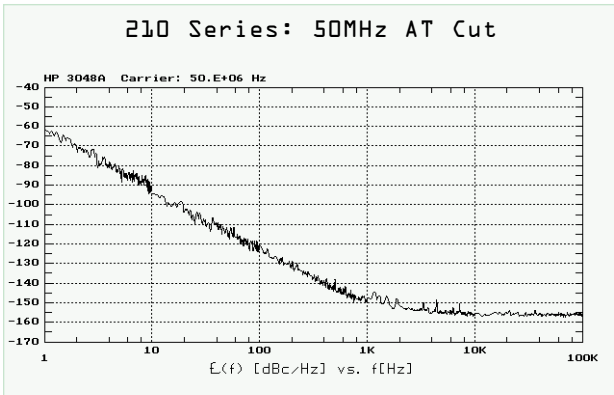
| Frequency MHz | Crystal Cut | Thermal Stability* | Aging Rate per Day | Aging Rate per Year | Output | Phase Noise @ offsets (dBc/Hz) | | | | | |
|---------------|-------------|--------------------|--------------------|---------------------|-----------|--------------------------------|------|-------|------|-------|--------|
| | | | | | | 1Hz | 10Hz | 100Hz | 1kHz | 10kHz | 100kHz |
| 9.600 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -60 | -90 | -120 | -150 | -155 | -155 |
| 10.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | HCMOS | -70 | -100 | -125 | -140 | -145 | -150 |
| 10.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -60 | -90 | -120 | -150 | -155 | -155 |
| 12.800 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -60 | -90 | -115 | -140 | -150 | -150 |
| 13.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -60 | -90 | -115 | -140 | -150 | -150 |
| 16.384 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -55 | -85 | -115 | -140 | -150 | -150 |
| 38.880 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | HCMOS | -55 | -85 | -115 | -140 | -150 | -150 |
| 50.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -50 | -80 | -110 | -140 | -150 | -150 |
| 65.536 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -45 | -75 | -105 | -135 | -145 | -150 |
| 77.760 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 7dBm Sine | -40 | -70 | -100 | -130 | -140 | -150 |
| 80.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 3dBm Sine | -40 | -70 | -100 | -130 | -140 | -150 |
| 100.000 | AT | 5.00E-07 | 5.00E-09 | 5.00E-07 | 5dBm Sine | -40 | -70 | -100 | -130 | -140 | -150 |

* Temperature Range is from -30°C to +70°C

210 Interface Control Drawing



Phase Noise



Thermal Stability



| Short Term Stability | dF/dV | dF/dL | Warm Up Time (Min) | Warm Up dF/F | Warm Up Power (W) | Continuous Power (W) @25°C | Tuning (Min) | MTI Model # |
|----------------------|----------|----------|--------------------|--------------|-------------------|----------------------------|--------------|-------------|
| 1.00E-10 | 5.00E-08 | 2.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0595 |
| 1.00E-10 | 5.00E-08 | 2.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0663 |
| 1.00E-10 | 5.00E-08 | 2.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0501 |
| 5.00E-10 | 2.00E-07 | 1.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0507 |
| 5.00E-10 | 2.00E-07 | 1.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±8.00E-06 | 210-0506 |
| 1.00E-09 | 2.00E-07 | 2.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0508 |
| 1.00E-09 | 1.00E-07 | 5.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±8.00E-06 | 210-0664 |
| 1.00E-09 | 1.00E-07 | 5.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0520 |
| 1.00E-09 | 1.00E-07 | 5.00E-08 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0661 |
| 1.00E-08 | 5.00E-07 | 1.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0662 |
| 1.00E-08 | 5.00E-07 | 1.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0577 |
| 1.00E-08 | 5.00E-07 | 1.00E-07 | 15 | 1.00E-07 | 2.5 | 0.7 | ±5.00E-06 | 210-0599 |