

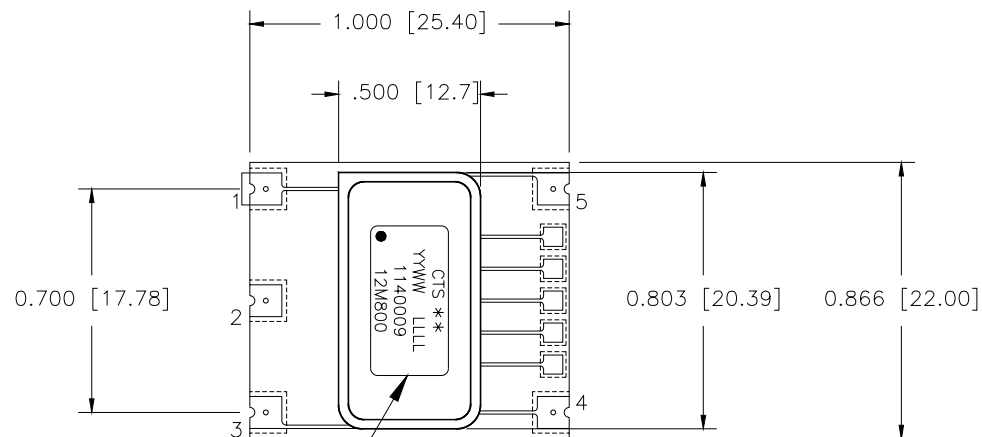
- ◆ Surface Mount 22x25mm, FR-4 platform for TCE Match
- ◆ Frequency Stability to Stratum 3 of GR-1244
- ◆ +3.3Vdc or 5.0Vdc Operation
- ◆ Low Phase Jitter: <1pSec
- ◆ Precision Low Aging “AT” Cut Crystal
- ◆ 6/6 RoHS compliant



Electrical Characteristics

| Parameter | Conditions/Remarks | Min | Typical | Max | Unit |
|--|--|---------|----------------------------------|---------|---------|
| Power Requirements | | | | | |
| Power Supply | ± 5% 112L | 3.135 | 3.300 | 3.465 | Vdc |
| | ± 5% 112S | 4.75 | 5.0 | 5.25 | |
| Turn-On Power | Max. Vcc, Load = 15pF | - | 3.5 | 4.0 | W |
| Steady State Power | Max. Vcc, Load = 15pF, @+25°C | - | - | 1.5 | W |
| Frequency Stability | | | | | |
| Center Frequency | f_{nom} | 10 | 10,12.8, 16.384, 19.44, 20,38.88 | 38.88 | MHz |
| Initial Tolerance | Ta=+25°C (at time of shipment) | - | ± 0.100 | - | ppm |
| Freq. vs. Temperature | 0°C to 70°C | - | ±0.75 | ±0.125 | ppm |
| | -40°C to +85°C | - | ±0.150 | ±0.250 | |
| Freq. vs. Voltage | Vcc ± 5% | - | ± 0.050 | - | ppm |
| Freq. vs Time (Aging) | Per day (after 30 days) | - | ± 0.005 | - | ppm |
| | 20 years | - | ± 2.500 | - | |
| Holdover Stability | All Causes, for 24hrs | - | ±0.20 | ± 0.370 | ppm |
| Total Free-Running Accuracy | All Causes for 20 Yrs (Ref. to f_{nom}) | - | - | ± 4.600 | ppm |
| Warm-Up Time | @ +25°C, to within 0.3ppm | - | - | 5 | minutes |
| Electrical Frequency Adjust (Optional) | f_{min} @ Vc=0V f_{max} @ Vc=Vcc f_{nom} @ Vc=0.5Vcc | ±9.2 | | | ppm |
| Waveform: CMOS Square Wave Output | | | | | |
| Symmetry | @ 50% Level | 40 | 50 | 60 | % |
| Amplitude | Logic “1” | 0.9*Vcc | - | - | V |
| | Logic “0” | - | - | 0.1*Vcc | V |
| Rise/Fall Times | 20% to 80% | - | 6 | 10 | ns |
| Load | Output to Ground | - | 15pF ± 5% | - | |
| Phase Noise | Offset = 10Hz | - | -80 | - | dBc/Hz |
| | 100Hz | - | -115 | - | dBc/Hz |
| | 1kHz | - | -135 | - | dBc/Hz |
| | 10kHz | - | -140 | - | dBc/Hz |
| | 100kHz | - | -143 | - | dBc/Hz |
| Phase Jitter | 12 KHz to 20 MHz Bandwidth | - | 0.3 | 1.0 | ps RMS |

Mechanical specifications



MARKING THIS SURFACE

** = MFG SITE CODE

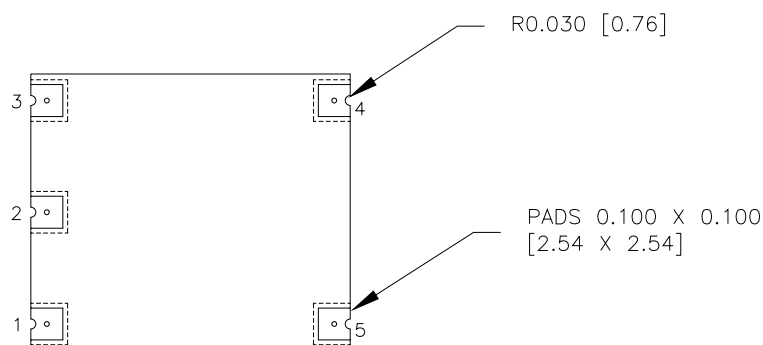
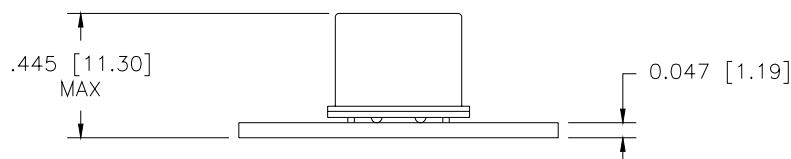
YYWW = DATE CODE

LLLL = LOT CODE (OPTIONAL)

TOLERANCE

±0.005 [0.13]

KEY: INCH [MM]



| Pad # | Function |
|-------|--------------------|
| 1 | Do Not Connect |
| 2 | Do Not Connect |
| 3 | Supply Voltage Vcc |
| 4 | Output |
| 5 | GND/Case |

Environmental / Mechanical Specifications

| | |
|----------------------|--|
| Storage Temperature: | -55° to +125°C |
| Reflow Soldering: | will withstand 240°C for 20 Seconds |
| Shock: | 50 G's, 11 mSec. Pulse (3 Shocks/Axis) |
| Vibration: | 10 G's peak, 10 to 500 Hz |
| Case: | Dual-In-Line, mounted on FR-4 platform |
| Seal: | Resistance Weld |
| Mounting Pad Finish | Gold Flash, <10 micro inch over Ni plated Cu |
| MSL: | Level 1 |
| 6/6 RoHS: | Fully compliant to RoHS Directive 2002/95/EC |

Model 112 Standard Options

