



SPECIFICATION FOR 5x7mm LVPECL SMT OSCILLATOR

MtronPTI P/N: M2100S124

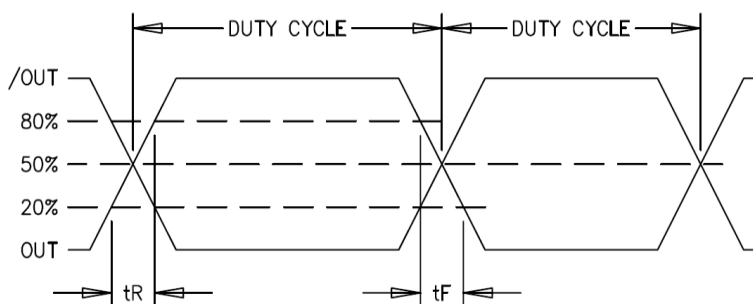
Electrical Specifications:

| Parameter | Symbol | Min. | Typ. | Max. | Units | Conditions |
|---|-----------------|---|-------------|-----------------------|-------|--|
| Frequency of Operation | F_o | | 1080.000000 | | MHz | |
| Frequency Stability | | | | | | |
| Frequency Stability | $\Delta F/F$ | -50 | | +50 | ppm | Includes initial tolerance, deviation over operating temperature, variations to supply voltage, load, vibration, shock and 1 st year aging. |
| Aging | | -5 | | +5 | ppm | 1 st year |
| RF Output | | | | | | |
| Output Type | | LVPECL Compatible | | | | |
| Output Load | | 50 Ω to (V _{cc} -2) VDC | | | V | |
| Symmetry (duty cycle) | T_{DC} | 45 | | 55 | % | Ref. to 50% of waveform |
| Logic Level "1" | | V _{cc} -1.02 | | | V | |
| Logic Level "0" | | | | V _{cc} -1.63 | V | |
| Rise/Fall Time | T_R/T_F | | | 0.5 | nS | From 20% to 80% V _{DD} |
| Start-up Time | T_{SU} | | | 10 | mS | T _{amb} = +25°C |
| Supply Voltage & Power Consumption | | | | | | |
| Operating Voltage | V _{CC} | 3.135 | 3.3 | 3.465 | V | |
| Supply Current | I _{CC} | | | 130 | mA | |
| Other Parameters | | | | | | |
| Phase Jitter (RMS) | Φ_J | | 220 | 300 | fsec | 12KHz to 20MHz |

Enable/Disable Function:

| | |
|-------------------------|---------------------------|
| Pad 1 | Output Pad #4, #5 |
| High or Open | |
| 0.8 V _{CC} Min | Output Enabled |
| 0.5 V Max | Output Disabled to high-Z |

Output Waveform:





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Environmental & Packaging Requirements:

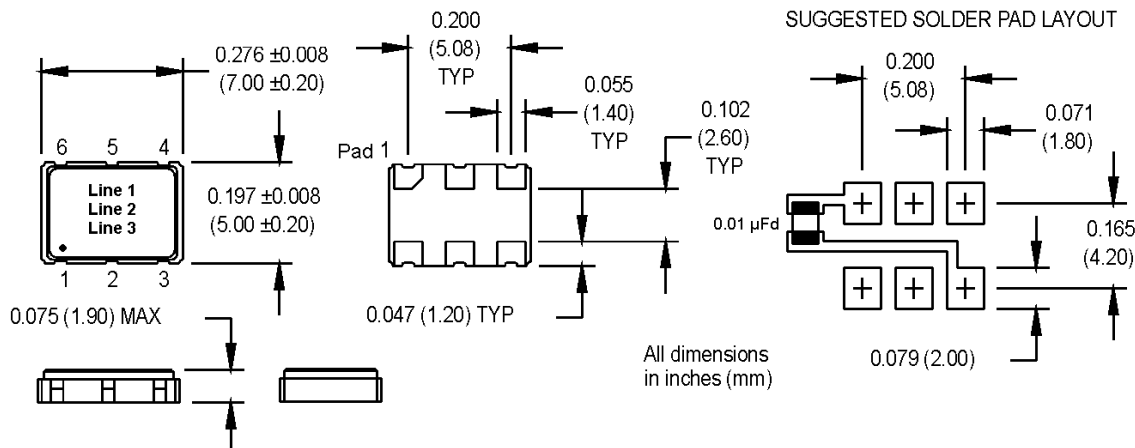
| | | | | | | |
|----------------------------------|---|-----|--|------|----|--|
| Operating Temperature | T _A | -40 | | +85 | °C | |
| Storage Temperature | T _S | -55 | | +125 | °C | |
| Mechanical Shock | Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave) | | | | | |
| Vibration | Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz) | | | | | |
| Thermal Cycle | Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles) | | | | | |
| Hermeticity | Per MIL-STD-202, Method 112 (1 x 10 ⁻⁸ atm cc/s of Helium) | | | | | |
| Moisture Sensitivity Level (MSL) | MSL 1 | | | | | |
| Solderability | Per EIAJ-STD-002 | | | | | |
| Max. Soldering Conditions | See solder profile, Figure 1 | | | | | |
| Package Type | 6-pad 5.0 X 7.0 X 1.9 mm leadless ceramic. RoHS compliant. | | | | | |

Dimensions, Marking, Pin Out:

| Pad | Function |
|-----|----------------------|
| 1 | Enable/Disable |
| 2 | N/C |
| 3 | Ground |
| 4 | Output |
| 5 | Complimentary Output |
| 6 | +V _{CC} |

| Part Marking | |
|--------------|-----------|
| Line 1 | M2100S124 |
| Line 2 | 1080M0000 |
| Line 3 | MPTI yyww |

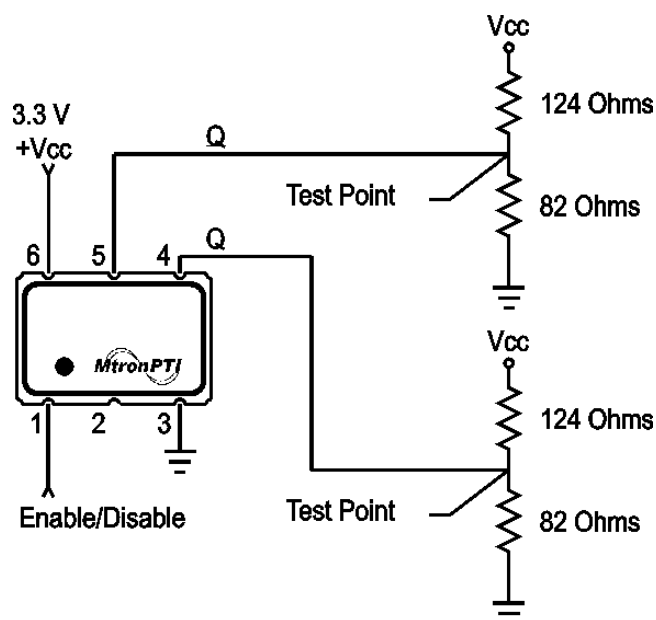
| Legend | |
|--------|-----------|
| yy | Year |
| ww | Work Week |



Typical Test Circuit & Load Circuit Diagrams:



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Soldering Conditions:

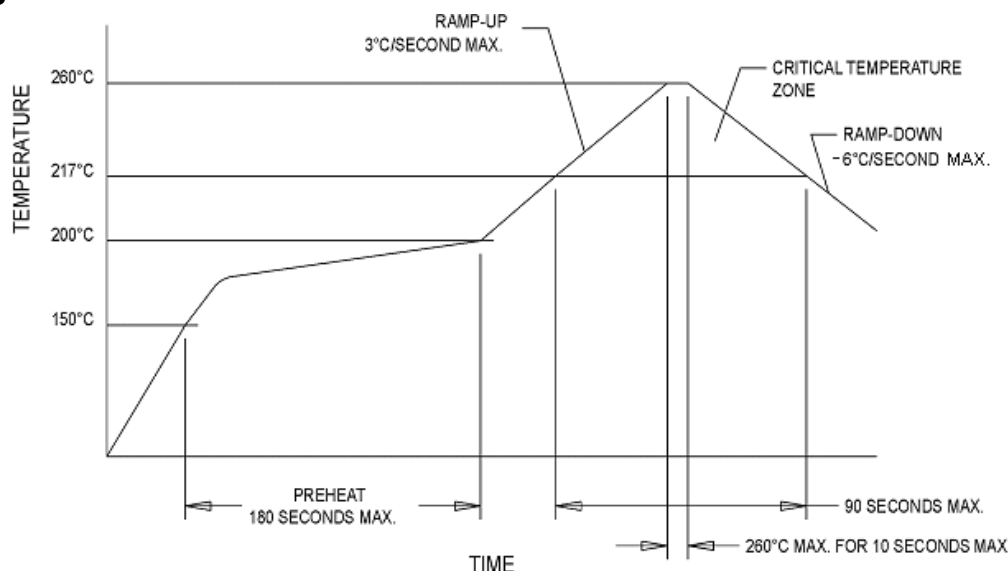


Figure 1

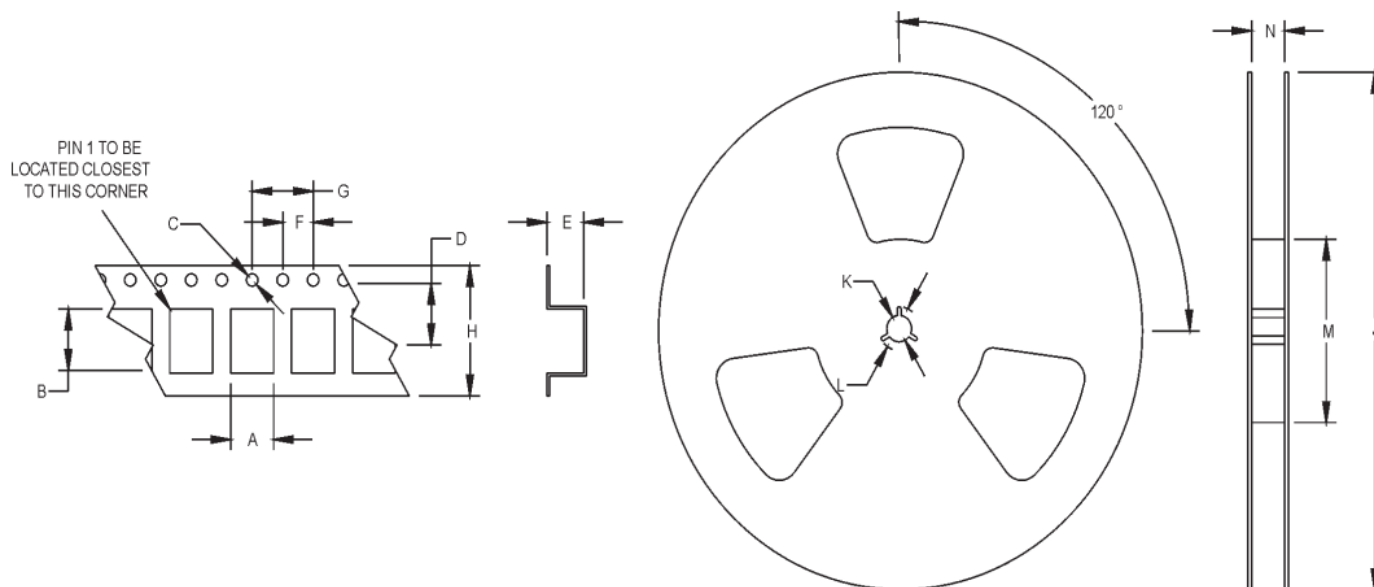
Tape and Reel Specifications:



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All units in mm



| Tape and Reel Specifications | | | | | | | | | | | |
|------------------------------|------|-----|-----|-----|---|---|----|-----|------|------|----|
| A | B | C | D | E | F | G | H | J | K | L | M |
| 5.32 | 7.28 | 1.5 | 7.5 | 2.2 | 4 | 8 | 16 | 178 | 13.5 | 24.8 | 80 |

Datasheet Revision Table:

| Date | Rev. | Author | Details of Revision |
|---------|------|--------|---------------------|
| 3/04/15 | 0 | MM | Original release. |