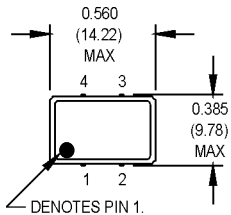


M8R Series

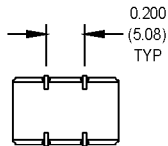
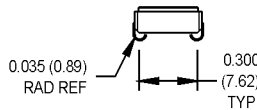
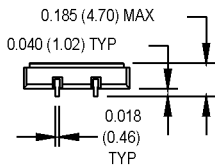
9x16 mm, 3.3 Volt, HCMOS/TTL, Clock Oscillator



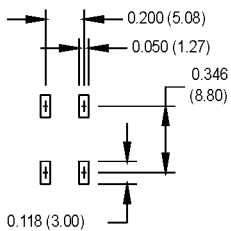
These are non-PLL based high frequency oscillators intended for applications that require low phase jitter. For frequencies 80.000 MHz and below, please see the M8S series.



All dimensions in inches (mm).



SUGGESTED SOLDER PAD LAYOUT



Pin Connections

| PIN | FUNCTION |
|-----|------------------|
| 1 | N/C or Tri-state |
| 2 | Ground |
| 3 | Output |
| 4 | +Vdd |

Ordering Information

| | | | | | | | | | | | |
|--------------------------------|--------------------------------|---|-------------------|---|-------------------|---|-------------------|---------|-----------------|------------|-------------|
| Product Series | M8R | 1 | 3 | F | A | J | -R | 00.0000 | MHz | | |
| Temperature Range | 1: 0°C to +70°C | | 2: -40°C to +85°C | | 5: -10°C to +85°C | | 6: -20°C to +70°C | | 7: 0°C to +85°C | | |
| Stability | 1: ±1000 ppm | | 2: ±500 ppm | | 3: ±100 ppm | | 4: ±50 ppm | | 5: ±35 ppm | 6: ±25 ppm | *8: ±20 ppm |
| Output Type | F: Fixed | | T: Tristate | | | | | | | | |
| Symmetry/Logic Compatibility | A: 40/60 CMOS/TTL | | C: 45/55 CMOS | | | | | | | | |
| Package/Lead Configurations | J: J Lead (Gold Flash Leads) | | | | | | | | | | |
| RoHS Compliance | Blank: non-RoHS compliant part | | | | | | | | | | |
| | -R: RoHS compliant part | | | | | | | | | | |
| Frequency (customer specified) | | | | | | | | | | | |

*Consult Factory for availability

| | PARAMETER | Symbol | Min. | Typ. | Max. | Units | Condition | |
|---------------------------|--------------------------|---|----------------------------|------|---------------------|--------|------------|------------|
| Electrical Specifications | Frequency Range | F | 80.001 | | 125 | MHz | | |
| | Frequency Stability | $\Delta F/F$ | (See Ordering Information) | | | | | |
| | Operating Temperature | T _A | (See Ordering Information) | | | | | |
| | Storage Temperature | T _s | -55 | | +125 | °C | | |
| | Input Voltage | V _{dd} | 3.15 | 3.3 | 3.45 | V | | |
| | Input Current | I _{dd} | | | 50 | mA | | |
| | Symmetry (Duty Cycle) | | (See Ordering Information) | | | | | See Note 1 |
| | Load | | 2 TTL or 15 pF | | | | | See Note 2 |
| | Rise/Fall Time | T _r /T _f | | | 4 | ns | See Note 3 | |
| | Logic "1" Level | V _{oh} | 90% V _{dd} | | | V | HCMOS load | |
| | | | V _{dd} - 0.5 | | | V | TTL load | |
| | Logic "0" Level | V _{ol} | | | 10% V _{dd} | V | HCMOS load | |
| | | | | | 0.5 | V | TTL load | |
| | Cycle to Cycle Jitter | | | 5 | 20 | ps RMS | 1 Sigma | |
| Tri-state Function | | Pin 1 logic "1" or floating; output active | | | | | | |
| | | Pin 1 logic "0"; output disables to high-Z | | | | | | |
| Environmental | Mechanical Shock | Per MIL-STD-202, Method 213, Condition C | | | | | | |
| | Vibration | Per MIL-STD-202, Method 201 & 204 | | | | | | |
| | Reflow Solder Conditions | 240°C for 10 s max. | | | | | | |
| | Hermeticity | Per MIL-STD-202, Method 112 (1 x 10 ⁻⁸ atm.cc/s of helium) | | | | | | |
| | Solderability | Per EIAJ-STD-002 | | | | | | |

1. Symmetry is measured at 1.4 V with TTL load, and at 50% V_{dd} with HCMOS load.
2. TTL load - see load circuit diagram #1. HCMOS load - see load circuit diagram #2.
3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS load

MtronPTI Lead Free Solder Profile

