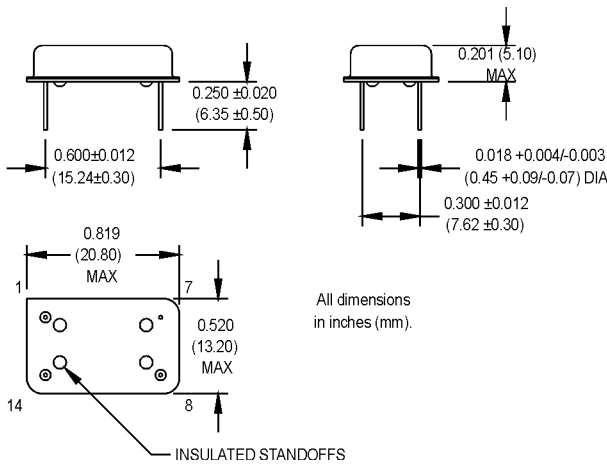


# M3E Series

14 pin DIP, 3.3 Volt, ECL/PECL, Clock Oscillator



## Ordering Information

|                                       |                                 |   |   |   |   |   |    |         |     |
|---------------------------------------|---------------------------------|---|---|---|---|---|----|---------|-----|
|                                       | M3E                             | 1 | 3 | X | Q | D | -R | 00.0000 | MHz |
| <b>Product Series</b>                 |                                 |   |   |   |   |   |    |         |     |
| <b>Temperature Range</b>              |                                 |   |   |   |   |   |    |         |     |
| 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                       |                                 |   |   |   |   |   |    |         |     |
| <b>Stability</b>                      |                                 |   |   |   |   |   |    |         |     |
| 1: ±1000 ppm                          | 2: ±500 ppm                     |   |   |   |   |   |    |         |     |
| 3: ±100 ppm                           | 4: ±50 ppm                      |   |   |   |   |   |    |         |     |
| 5: ±35 ppm                            | 6: ±25 ppm                      |   |   |   |   |   |    |         |     |
| *8: ±20 ppm                           |                                 |   |   |   |   |   |    |         |     |
| <b>Output Type</b>                    |                                 |   |   |   |   |   |    |         |     |
| X: Single Output                      | Z: Dual Output                  |   |   |   |   |   |    |         |     |
| <b>Symmetry/Logic Compatibility</b>   |                                 |   |   |   |   |   |    |         |     |
| P: 45/55% PECL                        | Q: 40/60% PECL                  |   |   |   |   |   |    |         |     |
| <b>Package/Lead Configurations</b>    |                                 |   |   |   |   |   |    |         |     |
| A: DIP; Gold Flash Header             | D: DIP; Nickel Header           |   |   |   |   |   |    |         |     |
| G: Gull Wing; Nickel Header           | X: Gull Wing; Gold Flash Header |   |   |   |   |   |    |         |     |
| <b>RoHS Compliance</b>                |                                 |   |   |   |   |   |    |         |     |
| Blank: non-RoHS compliant part        |                                 |   |   |   |   |   |    |         |     |
| -R: RoHS compliant part               |                                 |   |   |   |   |   |    |         |     |
| <b>Frequency (customer specified)</b> |                                 |   |   |   |   |   |    |         |     |

\*Contact factory for availability.

## Pin Connections

| PIN | FUNCTION(S) (Model Dependent) |
|-----|-------------------------------|
| 1   | N/C, Output #2                |
| 7   | -Vee, Ground                  |
| 8   | Output #1                     |
| 14  | +Vcc                          |

|                           | PARAMETER              | Symbol  | Min.   | Typ. | Max.                  | Units  | Condition                    |
|---------------------------|------------------------|---|--|------|-----------------------|--------|------------------------------|
| Electrical Specifications | Frequency Range        | F   | 1.5  |      | 155.52                | MHz    |                              |
|                           | Frequency Stability    | $\Delta F/F$  | (See Ordering Information)                         |      |                       |        | See Note 1                   |
|                           | Operating Temperature  | T <sub>A</sub>  | (See Ordering Information)                         |      |                       |        |                              |
|                           | Storage Temperature    | T <sub>s</sub>  | -55  |      | +125                  | °C     |                              |
|                           | Input Voltage          | V <sub>cc</sub>   | 3.15   | 3.3  | 3.45                  | V      |                              |
|                           | Input Current          | I <sub>ee</sub> /I <sub>cc</sub>                                      |  |      | 100                   | mA     |                              |
|                           | Symmetry (Duty Cycle)  |   | (See Ordering Information)                         |      |                       |        | V <sub>cc</sub> -1.3 V level |
|                           | Load                   |   | 50 Ω to V <sub>cc</sub> -2V or Thevenin Equivalent |      |                       |        | See Note 2                   |
|                           | Rise/Fall Time         | T <sub>r</sub> /T <sub>f</sub>  |  |      | 2.5                   | ns     | See Note 3                   |
|                           | Logic "1" Level        | V <sub>oh</sub>   | V <sub>cc</sub> -1.02                              |      |                       | V      |                              |
|                           | Logic "0" Level        | V <sub>ol</sub>   |  |      | V <sub>cc</sub> -1.63 | V      |                              |
|                           | Cycle to Cycle Jitter  |   |  | 13   | 25                    | ps RMS | 1 Sigma                      |
| Environmental             | Mechanical Shock       | Per MIL-STD-202, Method 213, Condition C                              |  |      |                       |        |                              |
|                           | Vibration              | Per MIL-STD-202, Method 201 & 204                                     |  |      |                       |        |                              |
|                           | Wave Solder Conditions | 260°C for 10 s max.   |  |      |                       |        |                              |
|                           | Hermeticity            | Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm.cc/s of helium) |  |      |                       |        |                              |
|                           | Solderability          | Per EIAJ-STD-002  |  |      |                       |        |                              |

1. Calibration, deviation over temperature, shock, vibration, and aging.
2. Internally terminated outputs. See load circuit diagram #5.
3. Rise/Fall times are measured between V<sub>cc</sub> -1.02 V and V<sub>cc</sub> -1.63 V.

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