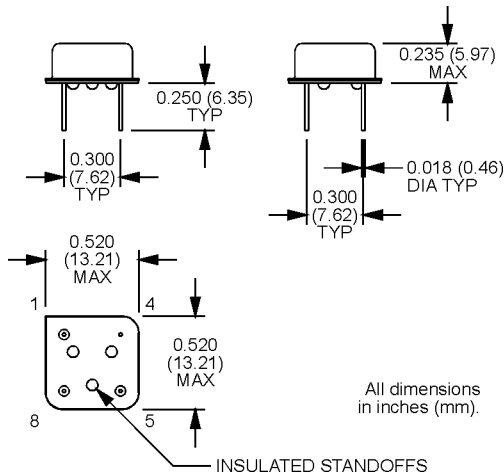


# MH Series Half-Size HCMOS/TTL Compatible Oscillators



## Half-Size HCMOS/TTL Compatible Oscillators



See page 135 for gull wing configuration.

## Available Symmetry

| FREQUENCY RANGE      | STD. | OPTIONS |
|----------------------|------|---------|
| 0.625 to 50.000 MHz  | A    | B, C, D |
| 50.001 to 60.000 MHz | A    | B, C    |
| 60.001 to 67.000 MHz | A    | C       |

|                                       |    |                                |   |   |                 |
|---------------------------------------|----|--------------------------------|---|---|-----------------|
| <b>Ordering Information</b>           |    |                                |   |   |                 |
|                                       | MH | 1                              | 3 | F | A D 00.0000 MHz |
| <b>Product Series</b>                 |    |                                |   |   |                 |
| <b>Temperature Range</b>              |    |                                |   |   |                 |
| 1: 0°C to +70°C                       |    | 2: -40°C to +85°C              |   |   |                 |
| 3: -55°C to +105°C                    |    | 4: -55°C to +125°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                     |   |   |                 |
| 7: +0/-200 ppm                        |    | 8: ±20 ppm                     |   |   |                 |
| <b>Output Type</b>                    |    |                                |   |   |                 |
| F: Fixed                              |    | T: Tristate (1.000 MHz and up) |   |   |                 |
| <b>Symmetry/Logic Compatibility</b>   |    |                                |   |   |                 |
| A: 40/60 CMOS/TTL                     |    | B: 45/55 TTL                   |   |   |                 |
| C: 45/55 CMOS                         |    | D: 45/55 CMOS/TTL              |   |   |                 |
| <b>Package/Lead Configurations</b>    |    |                                |   |   |                 |
| D: DIP; Nickel Header                 |    | G: Gull Wing; Nickel Header    |   |   |                 |
| <b>Frequency (customer specified)</b> |    |                                |   |   |                 |

## Available Stabilities vs. Temperature

| T \ S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------|---|---|---|---|---|---|---|---|
| 1     | A | A | S | A | A | A | A | A |
| 2     | A | A | A | A | A | A | A | C |
| 3     | C | C | C | C | N | N | C | N |
| 4     | C | C | C | C | N | N | C | N |
| 5     | A | A | A | A | A | A | A | C |
| 6     | A | A | A | A | A | A | A | C |
| 7     | A | A | A | A | A | A | A | C |

A = Available  
N = Not Available  
S = Standard  
C = Consult Factory

## Electrical Specifications

### Pin Connections

| PIN | FUNCTION            |
|-----|---------------------|
| 1   | N/C or Tri-state    |
| 4   | Circuit/Case Ground |
| 5   | Output              |
| 8   | +Vdd                |

### Tri-state Control Logic

Pin 1 high or floating: clock signal output  
Pin 1 low: output disables to high impedance

| Standard Operating Conditions • 0°C to +70°C; Vdd = 5.0 ±10% VDC |          |        |            |         |        |
|------------------------------------------------------------------|----------|--------|------------|---------|--------|
|                                                                  | TTL Load |        | HCMOS Load |         |        |
| PARAMETERS                                                       | MIN.     | MAX.   | MIN.       | MAX.    | UNITS  |
| Frequency Range                                                  | 0.625    | 67.000 | 0.625      | 67.000  | MHz    |
| Output Load <sup>1</sup>                                         |          | 10     |            | 50      | TTL/pF |
| Symmetry <sup>2</sup>                                            | 40/60    | 60/40  | 40/60      | 60/40   | %      |
| Logic "0" Level                                                  |          | 0.5    |            | 10% Vdd | V      |
| Logic "1" Level                                                  | Vdd-.5   |        | 90% Vdd    |         | V      |
| Rise/Fall Time <sup>3</sup>                                      |          | 5      |            | 10      | nS     |
| Supply Current                                                   |          |        |            |         |        |
| 0.625 to 40.000 MHz                                              |          | 30     |            | 40      | mA     |
| 40.001 to 67.000 MHz                                             |          | 55     |            | 60      | mA     |

<sup>1</sup> TTL load - See load circuit diagram #1 on page 137. HCMOS load - See load circuit diagram #2 on page 137.

<sup>2</sup> Symmetry is measured at 1.4 V with TTL load, and at 50% Vdd with HCMOS load.

<sup>3</sup> Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% Vdd and 90% Vdd with HCMOS load. See page 136 for suggested soldering conditions.

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