

Quartz Crystal Unit

4P Series

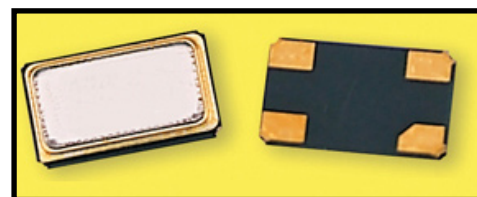
Seam Sealed Ceramic SMD Package (2.0 x 1.6 x 0.5mm)

(4 Pads)

MEC Crystals

Features:

- Ultra thin, thickness 0.5mm
- Leadless type
- High precision characteristic covering up to high frequency range
- Automatic mounting
- Embossed taping specification
- Reflow soldering
- **RoHs Compliant (Pb Free)**



Electrical Specifications:

| Frequency Range | 16MHz to 80MHz |
|--|---|
| Frequency Tolerance (at 25°C) | ±10ppm, ±15ppm, ±20ppm, ±25ppm, ±30ppm, ±50ppm or specify |
| Frequency Stability over Operating Temperature Range | ±10ppm, ±15ppm, ±20ppm, ±25ppm, ±30ppm, ±50ppm or specify |
| Operating Temperature Range | -10°C to +60°C, -20°C to +70°C, -40°C to +85°C |
| Storage Temperature Range | -55°C to +125°C |
| Aging at 25°C 1st year (max) | ±3ppm / year |
| Shunt Capacitance | 3.0pF maximum |
| Drive Level | 10µ ~ 100µ Watts |
| Load Capacitance (C _L) | Series, 12pF, 16pF, 20pF, 30pF, 32pF or specify |
| Equivalent Series Resistance ESR (Ω) | see chart |

Equivalent Series Resistance (ESR) and Mode of Operation (Mode):

| Frequency Range | E.S.R. (ohms) | Mode |
|-----------------------|---------------|------------------|
| 16.000MHz ~ 23.999MHz | 100 max. | Fundamental / AT |
| 24.000MHz ~ 25.999MHz | 80 max. | Fundamental / AT |
| 26.000MHz ~ 39.999MHz | 60 max. | Fundamental / AT |
| 40.000MHz ~ 80.000MHz | 50 max. | Fundamental / AT |

Part Numbering System:

4P 16.000 F 16 X 10 30
① ② ③ ④ ⑤ ⑥ ⑦

① Series

| |
|----|
| 4P |
|----|

② Frequency

| Frequency |
|------------|
| ex. 16.000 |

③ Mode of Vibration

| Code | Cut-Mode |
|------|----------|
| F | AT Fund |

④ Load Capacitance CL

| Code | Load Capacitance |
|------------|------------------|
| S | Series |
| 12 | 12pF |
| 16 | 16pF |
| 20 | 20pF |
| 30 | 30pF |
| 32 | 32pF |
| or specify | |

⑤ Operating Temperature

| Code | Ranges |
|------|---------------|
| A | -10°C ~ +60°C |
| B | -20°C ~ +70°C |
| X | -40°C ~ +85°C |

⑥ Frequency Tolerance

| Code | Tolerance |
|------------|-----------|
| 10 | ± 10 ppm |
| 15 | ± 15 ppm |
| 20 | ± 20 ppm |
| 25 | ± 25 ppm |
| 30 | ± 30 ppm |
| 50 | ± 50 ppm |
| or specify | |

⑦ Frequency Stability

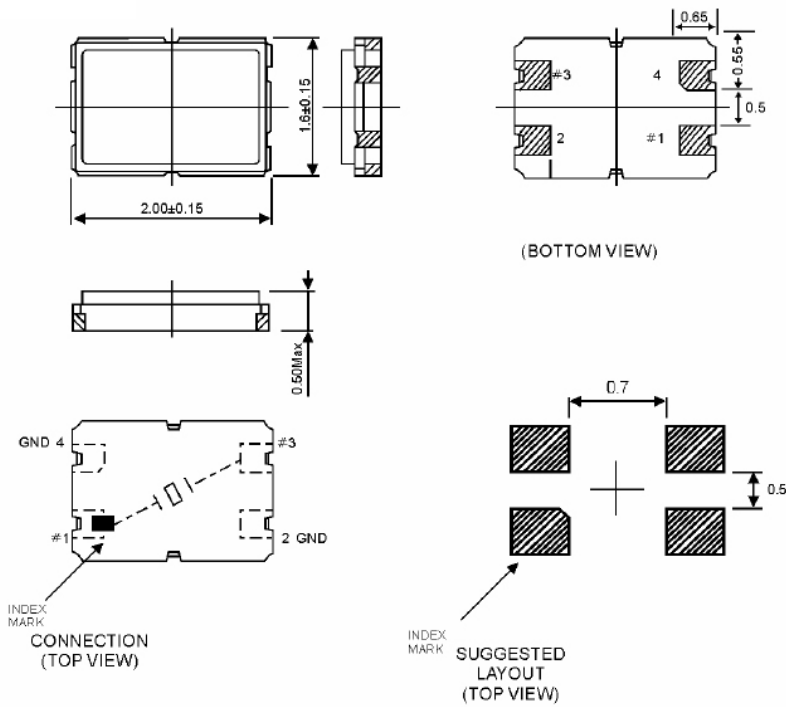
| Code | Stability |
|------------|-----------|
| 10 | ± 10 ppm |
| 15 | ± 15 ppm |
| 20 | ± 20 ppm |
| 25 | ± 25 ppm |
| 30 | ± 30 ppm |
| 50 | ± 50 ppm |
| or specify | |

Remark: Specifications are subject to change without prior notice. Please confirm with our sales engineer.

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(4 Pads)

Dimensions:



Recommended Reflow Profile:

