

- ▶ 3.3 or 5.0V version
- ▶ 5 x 7 mm Footprint
- ▶ Low power consumption
- ▶ RoHS Compliant (Note 7 Exemption)

ECS-3951C/3953C

SMD CLOCK OSCILLATOR

ECS-3951C (5V) and ECS-3953C (3.3V) miniature SMD crystal controlled, low current clock oscillator in a ceramic SMD package.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-3951C (+5V) | | | ECS-3953C (+3.3V) | | | UNITS |
|-----------------------|----------------------|-----------------|------|-----------|-------------------|------|-----------|-------|
| | | MIN | TYP | MAX | MIN | TYP | MAX | |
| Frequency Range | | 1.000 | | 80.000 | 1.000 | | 125.000 | MHz |
| Operating Temperature | Standard | 0 | | +70 | 0 | | +70 | °C |
| | Extended (N Option) | -40 | | +85 | -40 | | +85 | °C |
| Storage Temperature | | -55 | | +125 | -55 | | +125 | °C |
| Supply Voltage | | +4.5 | +5.0 | +5.5 | +3.0 | +3.3 | +3.6 | VDC |
| Frequency Stability * | Standard | | | ± 100 | | | ± 100 | ppm |
| | Option B | | | ± 50 | | | ± 50 | ppm |
| | Option C | | | ± 25 | | | ± 25 | ppm |
| Input Current | 1.8 to 30.0 MHz | | | 10 | | | 8 | mA |
| | 30.1 to 35.0 MHz | | | 15 | | | 8 | mA |
| | 35.1 to 50.0 MHz | | | 30 | | | 12 | mA |
| | 50.1 to 66.0 MHz | | | 30 | | | 15 | mA |
| | 66.1 to 80.0 MHz | | | 50 | | | 30 | % |
| Output Symmetry | @ 50% VDD level | | | 40/60 | | | 40/60 | % |
| Rise and Fall Times | 10% VDD to 90% level | | | 10 | | | 15 | ns |
| "0" level | VOL | | | 10% * Vcc | | | 10% * Vcc | VDC |
| "1" level | VOH | 90% * Vcc | | | 90% * Vcc | | | VDC |
| Output Load | HCMOS | | | 15 | | | 15 | pF |
| Startup time | 1.8 to 36.0 MHz | | | 5 | | | 5 | ms |
| | 36.1 to 80.0 MHz | | | 10 | | | 10 | ms |
| Output Current | VOL=0.5V/0.33V | | | 4 | | | 4 | mA |
| | VOL=4.5V/2.97V | | | -4 | | | -4 | mA |
| Enable/Disable Time | | | | 100 | | | 150 | ns |

DIMENSIONS (mm)

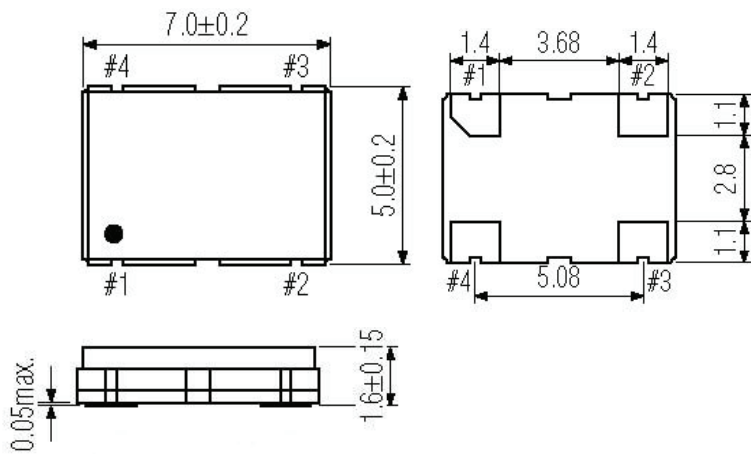


Figure 1) Top, Side and Bottom views

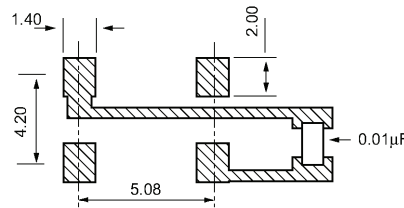


Figure 2) Suggested Land Pattern

Pin Connections

| | |
|--------|--------------|
| Pin #1 | Tri-State ** |
| Pin #2 | Ground |
| Pin #3 | Output |
| Pin #4 | Vcc |

Tri-State Control Voltage

| | |
|----------------|----------------|
| Pad 1 | Pad 3 |
| Open | Oscillation |
| Vcc x 0.9 Min. | Oscillation |
| Vcc x 0.1 Max. | No Oscillation |

* Note: Inclusive of 25°C tolerance, operating temperature, input voltage change, load change, shock and vibration.

** Note: Internal pullup resistor from pin 1 to 4 allows active output if pin 1 is left open.

PART NUMBERING GUIDE: Example ECS-3953C-500-B

| | | | | |
|------------|--------------------------------|---|---|---|
| ECS | - Series | - Frequency Abbreviation | - Stability | Temperature |
| | 3951C = +5.0V 3953C = +3.3V | 500 = 50.000 MHz See Frequency Abbreviations | Blank = ± 100 ppm B = ± 50 ppm C = ± 25 ppm | Blank = 0 ~ +70°C M = -20 ~ +70°C N = -40 ~ +85°C |

ECS-3953C is also compatible with a supply voltage of +3.0V DC ±0.3V