

The ECS-3951C (5V) and ECS-3953C (3.3V) Series are miniature, crystal controlled, low current clock oscillator in a ceramic SMD package. The low profile package is ideal for today's advanced portable PC and instrumentation designs.

FEATURES

- 3.3 or 5.0V version
- Miniature profile
- Low power consumption
- Tape & Reel (1,000 pcs.)
- RoHS Compliant (Note 7 Exemption)

PART NUMBERING GUIDE

| | FREQUENCY (50.0 MHz) | STABILITY TOLERANCE (± 50 PPM) |
|-----------|----------------------|-------------------------------------|
| ECS-3951C | - 500 | - B |

Sample Part Number: ECS-3951C-500-B

OPERATING CONDITIONS/ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-3951C (5V) | | | ECS-3953C (3.3V)* | | | UNITS |
|-----------------------|-----------------|----------------|------------|--------|-------------------|------------|--------|--------------|
| | | MIN | TYP | MAX | MIN | TYP | MAX | |
| FREQUENCY RANGE | | 1.800 | | 80.000 | 1.800 | | 80.000 | MHz |
| TEMPERATURE RANGE | Operating | 0 | | +70 | 0 | | +70 | $^{\circ}$ C |
| | Storage | -55 | | +125 | -55 | | +125 | $^{\circ}$ C |
| SUPPLY VOLTAGE | | +4.5 | +5.0 | +5.5 | +3.0 | +3.3 | +3.6 | V DC |
| FREQUENCY STABILITY** | Standard | -100 | ± 40 | +100 | -100 | ± 40 | +100 | PPM |
| | Option (B) | -50 | | +50 | -50 | | +50 | PPM |
| | Option (C) | -25 | | +25 | -25 | | +25 | PPM |
| INPUT CURRENT | 1.8 ~ 30.0 MHz | | | 10 | | | 8 | mA |
| | 30.0 ~ 35.0 MHz | | | 15 | | | 8 | mA |
| | 35.0 ~ 50.0 MHz | | | 30 | | | 12 | mA |
| | 50.0 ~ 66.0 MHz | | | 30 | | | 15 | mA |
| | 66.0 ~ 80.0 MHz | | | 50 | | | 30 | mA |
| OUTPUT SYMMETRY | @ 1/2 Vcc Level | 40/60 | 50 \pm 4 | 60/40 | 40/60 | 50 \pm 4 | 60/40 | % |
| RISE AND FALL TIMES | | | | 10 | | | 15 | ns |
| LOGIC "0" LEVEL | Vcc x 0.1V max. | | | | | | | |
| LOGIC "1" LEVEL | Vcc x 0.9V min. | | | | | | | |
| LOAD | HCMOS | | | 15 | | | 15 | pF |
| START-UP TIME | 1.8 ~ 36.0 MHz | | | 5 | | | 5 | ms |
| | 36.0 ~ 80.0 MHz | | | 10 | | | 10 | ms |
| OUTPUT CURRENT (IOL) | VOL=0.5V/0.33 | | | 4 | | | 4 | mA |
| | VOH=4.5V/2.97V | | | -4 | | | -4 | mA |
| ENABLE/DISABLE TIME | | | | 100 | | | 100 | ns |

* ECS-3953C is also compatible with a supply voltage of +3.0V DC $\pm 0.3V$

** Inclusive of 25 $^{\circ}$ C tolerance, operating temperature range, input voltage change, load change, aging shock and vibration.

*** An internal pullup resistor from pin 1 to 4 allows active output if pin 1 is left open.

Note: A 0.01 μ F bypass capacitor should be placed between VCC (Pin 4) and GND (Pin 2) to minimize power line noise.

PACKAGE DIMENSIONS (mm)

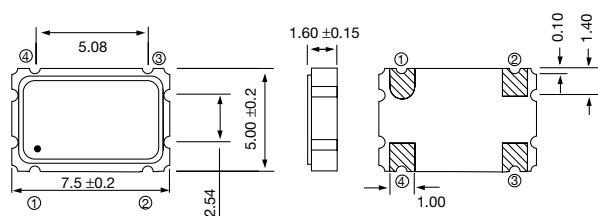


Figure 1) ECS-3951C/3953C Top, Side and Bottom views

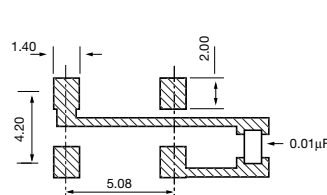


Figure 2) Land Pattern

| PIN CONNECTIONS | |
|-----------------|--------------|
| #1 | TRI-STATE*** |
| #2 | GND |
| #3 | OUTPUT |
| #4 | VCC |

| ECS-3951C/3953C Standby Control Voltage | |
|---|---------------------|
| PIN #1 = OPEN *** | #3 = OSCILLATION |
| PIN #1 = VCCx0.9 MIN | #3 = OSCILLATION |
| PIN #1 = VCCx0.1 MAX | #3 = HIGH IMPEDANCE |