



- ▶ Chip Type SMD Package
- ▶ RoHS Compliant (Note 7 Exemption)
- ▶ Built-in load capacitor
- ▶ Tape & Reel Packaging

# ECS-HFR-B

## SMD CERAMIC RESONATOR

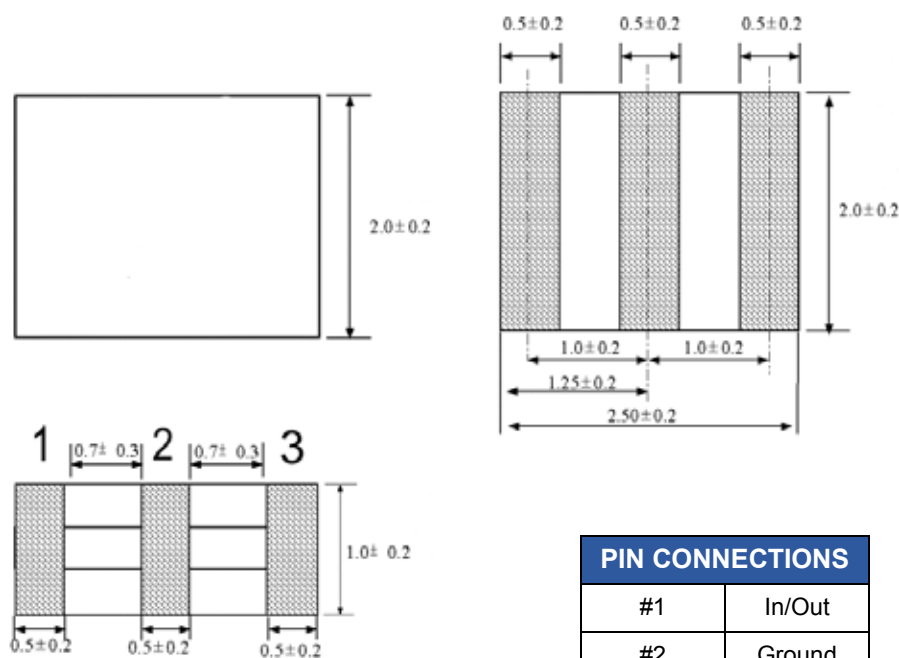
The ECS-HFR-B Series SMD ceramic resonator includes built in capacitors for reduced component count. The SMD Ceramic resonator is an excellent low cost frequency control solution when absolute frequency accuracy is not important.

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PART NUMBER *   | FREQUENCY RANGE (MHz) | FREQUENCY ACCURACY @ 25°C (%) | FREQUENCY STABILITY -20 ~ +80°C (%) | AGING FOR TEN YEARS (%) | ESR (Ω) MAX. | BUILT-IN CAPACITANCE (C1 & C2) | IC               |
|-----------------|-----------------------|-------------------------------|-------------------------------------|-------------------------|--------------|--------------------------------|------------------|
| ECS-HFR-□□.□□-B | 20.00 ~ 30.00         | ± 0.5                         | ± 0.4                               | ± 0.3                   | 70           | 8 pF                           | 1/6 TC74HCU04 x2 |
| ECS-HFR-□□.□□-B | 30.10 ~ 50.00         | ± 0.5                         | ± 0.3                               | ± 0.3                   | 60           | 8 pF                           |                  |

Complete part number to include frequency i.e. ECS-HFR-20.00-B

### PACKAGE DIMENSIONS (mm)



| PIN CONNECTIONS |        |
|-----------------|--------|
| #1              | In/Out |
| #2              | Ground |
| #3              | Out/In |

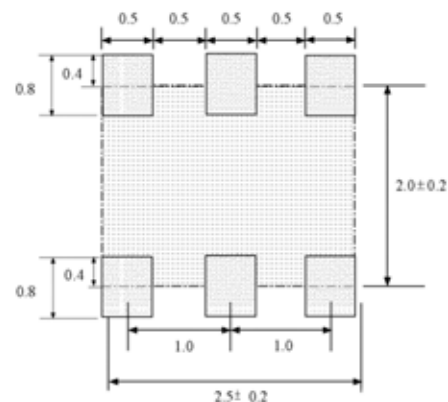


Figure 2) Land Pattern

Figure 1) ECS-HFR-B Series - Top, Side and Bottom Views

### PART NUMBERING GUIDE: "Example" ECS-HFR-20.00-B-TR

| ECS | - | Series          | - | Frequency         | - | Version           | - | Packaging        |
|-----|---|-----------------|---|-------------------|---|-------------------|---|------------------|
|     |   | HFR = Chip Type |   | 20.00 = 20.00 MHz |   | B = Built In Caps |   | TR = Tape & Reel |