**SMX-3F**

**Ultra low profile SMD Crystal**

**Features**
- Applications: telecommunications, audio, automotive, instruments
- Ultra low profile package, height: 2.5 ~ 4.5 mm
- High reliable, low cost crystal
- Reflow soldering @ 260 °C

### Parameter | Specification
--- | ---
Frequency range | 3.5 ~ 40 MHz fundamental
 | 32 ~ 70 MHz 3rd overtone
Mode of oscillation | AT-cut
 | BT-cut on request
Standard frequencies | 3.579545, 3.6864, 4.096, 4.9152, 5.00, 7.20, 8.00, 10.3680
 | 13.0133, 14.31818, 16.00, 20.00, 24.576 & 25.00 MHz
Frequency tolerance | ±10 ~ ±50 ppm @ +25 °C
Frequency stability | ±10 ~ ±100 ppm vs. operating temperature range
Aging | ±2 ppm 1st year
Load capacitance | series or parallel resonance (CL = 8 ~ 32 pF)
Equivalent series resistance (ESR) | < 75 Ω 3.6864 MHz
 | < 12 Ω 24.576 MHz
Drive level | 10 ~ 250 μW
Operating temperature range | -20 ~ +70 °C commercial application
 | -40 ~ +85 °C industrial application
 | -40 ~ +125 °C automotive application
Storage temperature range | -55 ~ +125 °C
Packaging unit | tape & reel 1’000 pieces
Customer specifications on request

**Soldering pattern**

**Height H:** 2.5 to 4.5 mm Max.