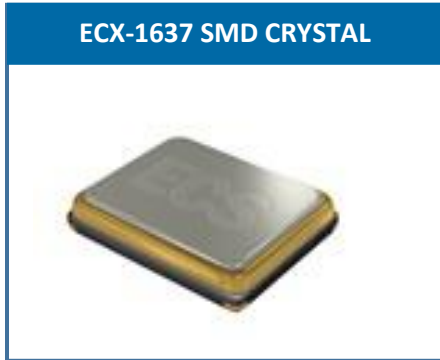


The sub miniature ECX-1637 is a very compact SMD Crystal. The 2.0 x 1.6 x 0.45 mm ceramic package is ideal for LoRa WAN, wireless, cellular, and high density applications.

Request a Sample



OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECX-1637 | | | UNITS |
|------------------------|------------------|----------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 16.000 | | 80.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance* | @ +25°C | | | ± 50 | ppm |
| Frequency Stability* | -20 ~ +70°C | | | ± 50 | ppm |
| Shunt Capacitance | Co | | | 5 | pF |
| Load Capacitance | Specify in P/N | | 8 | | pF |
| Drive Level | DL | | | 100 | μW |
| Operating Temperature* | T _{opr} | -20 | | +70 | °C |
| Storage Temperature | T _{stg} | -40 | | +85 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±5 | ppm |

- Low Profile
- 2.0 x 1.6 mm Footprint
- Extended Temp. Range Option
- RoHS Compliant

DIMENSIONS (mm)

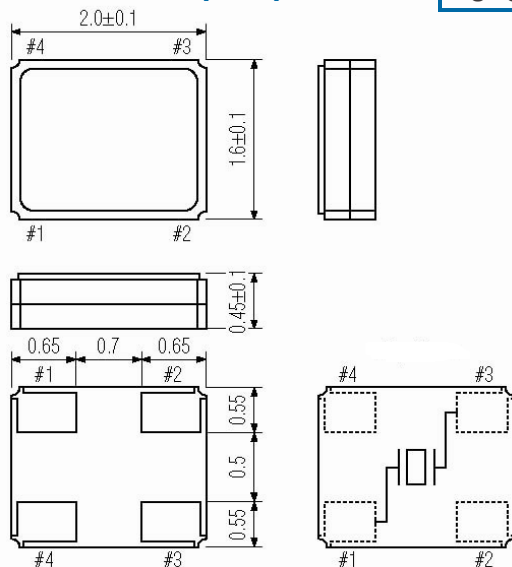


Figure 1) Top, Side, and Bottom

Crystal is symmetrical, pad 1 & 3 are interchangeable. Chamfer on the bottom pad has no electrical significance.

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 16.000 ~ 23.999 | 100 |
| 24.000 ~ 25.999 | 80 |
| 26.000 ~ 39.999 | 60 |
| 40.000 ~ 80.000 | 50 |

| Pad Connections | |
|-----------------|--------|
| 1 | In/Out |
| 2 | Gnd |
| 3 | Out/In |
| 4 | Gnd |

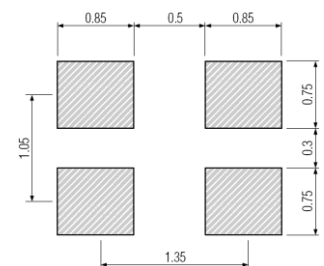


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-240-8-37-TR

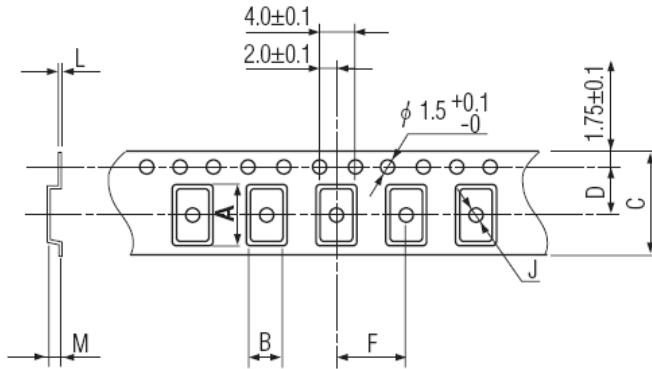
| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | AVAILABLE OPTIONS | | | PACKAGING | |
|------------------------------|-----------------------------------|------------------------------------|-------------------|---|--|---|-----------------------------------|
| | | | Tolerance | Stability | Temp Range | | |
| ECS | 240 = 24.000 MHz See P/N Guide | 8 = 8 pF 10 = 10 pF S=Series | -37 = ECX-1637 | Blank = Std A = ± 25 ppm J = ± 20 ppm R = ± 15 ppm C = ± 10 ppm | Blank = Std D = ± 100 ppm E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm T = ± 20 ppm † W = ± 15 ppm † K = ± 10 ppm † | Blank = Std L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C P = -40 ~ +105°C S = -40 ~ +125°C U = -55 ~ +125°C | TR = Tape & Reel 1K/Reel |

* Specify available options in P/N.

† Contact ECS for availability over extended temp range.

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POCKET TAPE DIMENSIONS (mm)



| A | B | C | D | F | J | L | M | Reel Dia. | Qty/Reel |
|------|------|-----|-----|-----|-----|------|------|-----------|----------|
| 2.25 | 1.85 | 8.0 | 3.5 | 4.0 | 1.0 | 0.25 | 0.65 | 180 | 1000 |

| SOLDER PROFILE | |
|---|--|
| Peak solder Temp +260°C Max 10 sec Max. | |
| 2 Cycles Max. | |
| MSL 1, Lead Finish Au | |

| DEVELOPED FREQUENCIES | |
|-----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 160 | 16.000 |
| 200 | 20.000 |
| 240 | 24.000 |
| 260 | 26.000 |
| 270 | 27.000 |
| 300 | 30.000 |
| 320 | 32.000 |
| 360 | 36.000 |
| 400 | 40.000 |



Figure 1) Suggested Reflow Profile