

The miniature ECS-23G is a compact SMD Crystal. The industry standard 6 x 3.5 x 1.2 mm ceramic package is ideal for GPS, WiFi, Telecom, and wireless charging applications.

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- Low Profile
- 6.0 x 3.5 mm Footprint
- Extended Temp. Range
- RoHS Compliant

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | ECS-23G | | | UNITS |
|-----------------------|------------------|---------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 8.000 | | 50.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance | @ +25°C (J) | | | ± 20 | ppm |
| Frequency Stability | -40 ~ +85°C (GN) | | | ± 30 | ppm |
| Shunt Capacitance | Co | | | 7 | pF |
| Load Capacitance | Specify in P/N | | 18 | | pF |
| Drive Level | DL | | 10 | 100 | μW |
| Operating Temperature | Topr | -40 | | +85 | °C |
| Storage Temperature | Tstg | -40 | | +90 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±5 | ppm |
| Insulation Resistance | @100 Vdc | 500 | | | MΩ |

DIMENSIONS (mm)

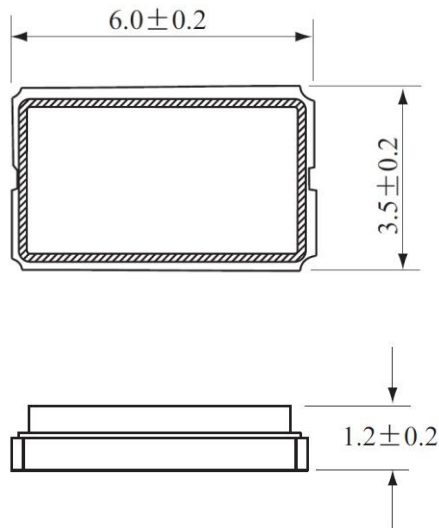


Figure 1) Top, Side, Bottom views

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 8.000 ~ 9.999 | 100 |
| 10.000 ~ 11.999 | 80 |
| 12.000 ~ 15.999 | 60 |
| 16.000 ~ 50.000 | 50 |

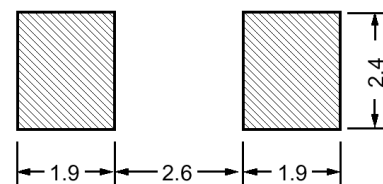


Figure 2) Suggested land pattern

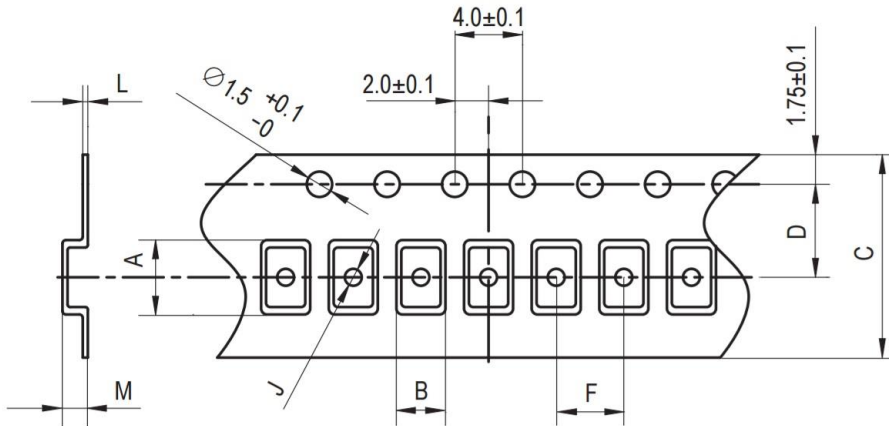
PART NUMBERING GUIDE: Example ECS-240-18-23G-JGN-TR

| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | CUSTOM OPTIOND | | | PACKAGING | |
|------------------------------|-----------------------------------|------------|-------------------|--|---|--|-----------------------------------|
| | | | Tolerance | Stability | Temp Range | | |
| ECS | 240 = 24.000 MHz See P/N Guide | 18 = 18 pF | -23G = ECS-23G | A = ± 25 ppm J = ± 20 ppm *R = ± 15 ppm *C = ± 10 ppm | E = ± 50 ppm G = ± 30 ppm H = ± 25 ppm *T = ± 20 ppm *W = ± 15 ppm *K = ± 10 ppm | L = -10 ~ +70°C M = -20 ~ +70°C Y = -30 ~ +85°C N = -40 ~ +85°C | TR = Tape & Reel 1K/Reel |

*Contact ECS for availability

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POCKET TAPE DIMENSIONS (mm)



| A | B | C | D | F | J | L | M | Reel Dia. | Qty/Reel |
|-----|-----|------|-----|-----|-----|-----|-----|-----------|----------|
| 6.4 | 3.9 | 12.0 | 5.5 | 8.0 | 1.5 | 0.3 | 1.5 | 178 | 1000pcs |

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

| DEVELOPED FREQUENCIES | |
|-----------------------|-----------------|
| Abbreviation | Frequency (MHZ) |
| 080 | 8.000 |
| 100 | 10.000 |
| 120 | 12.000 |
| 160 | 16.000 |
| 184 | 18.432 |
| 200 | 20.000 |
| 240 | 24.000 |
| 250 | 25.000 |
| 480 | 48.000 |

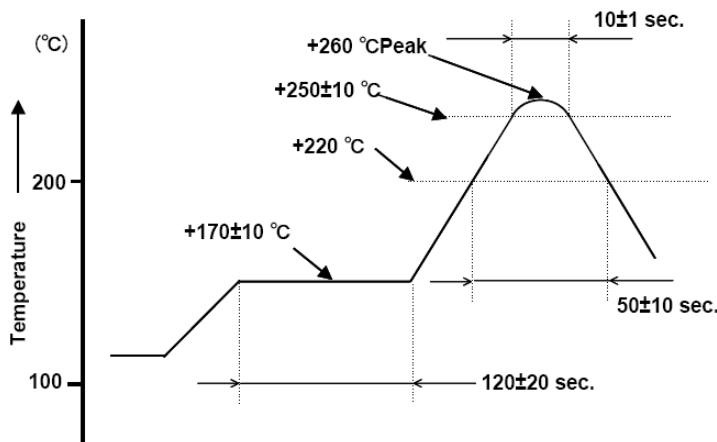


Figure 1) Suggested Reflow Profile

Mouser Electronics

Authorized Distributor

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ECS:

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