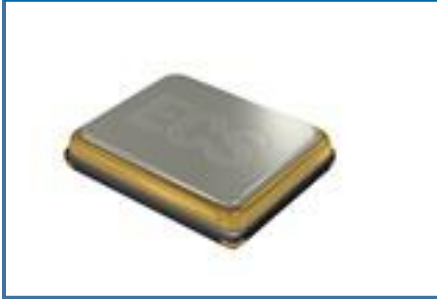


The CSM-8Q is a compact SMD Crystal with a 7.0 x 5.0 mm footprint. AEC-Q200 Qualified

CSM-8Q SMD CRYSTAL

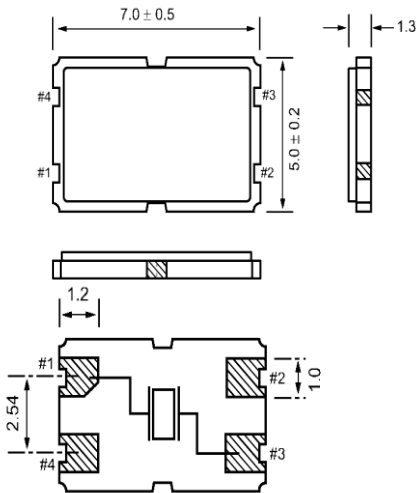
Request a Sample

CSM-8Q SMD CRYSTAL



- Compact and Low Profile
- 7.0 x 5.0 mm Footprint
- RoHS Compliant
- AEC-Q200 Qualified

DIMENSIONS (mm)



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

Figure 1) Top, Side, and Bottom

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

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

| PARAMETERS | CONDITIONS | CSM-8Q | | | UNITS |
|------------------------|---------------------------------|--------|-----|--------|-------|
| | | MIN | TYP | MAX | |
| Frequency | | 8.000 | | 36.000 | MHz |
| Mode of Oscillation | Fundamental | | | | |
| Frequency Tolerance* | @ +25°C | | | ± 30 | ppm |
| Frequency Stability* | -55 ~ +125°C (DU Option) | | | ± 100 | ppm |
| Shunt Capacitance | Co | | | 7 | pF |
| Load Capacitance | Specify in P/N | 10 | 20 | Series | pF |
| Drive Level | DL | | | 100 | µW |
| Operating Temperature* | T _{opr} (DU Option) | -55 | | +125 | °C |
| Storage Temperature | T _{stg} | -55 | | +125 | °C |
| Aging (First Year) | @ +25°C ±3°C | | | ±5 | ppm |

| Frequency (MHz) | ESR Ω Max. |
|-----------------|------------|
| 8.000 ~ 15.999 | 60 |
| 16.000 ~ 36.000 | 40 |

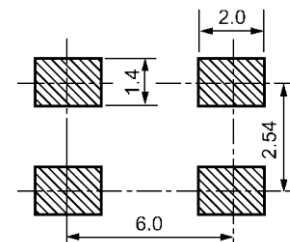


Figure 2) Suggested land

PART NUMBERING GUIDE: Example ECS-200-20-20BQ-DU-TR

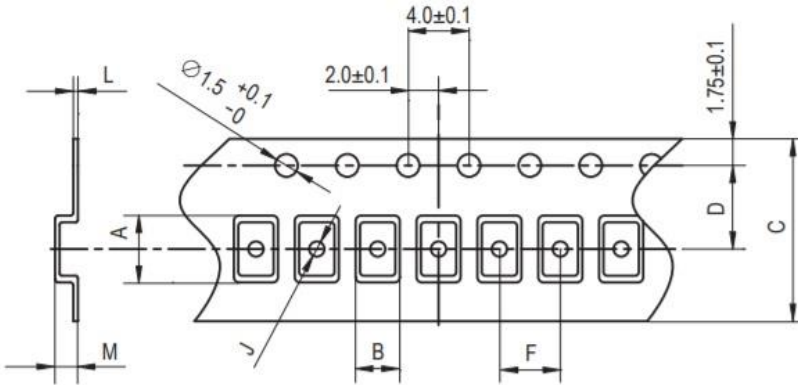
| ECS - FREQUENCY ABBREVIATION | LOAD CAPACITANCE | PACKAGE | AVAILABLE OPTIONS | | | PACKAGING | |
|------------------------------|-----------------------------------|--------------------------|-------------------|---|--|---|-----------------------------------|
| | | | Tolerance | Stability | Temp Range | | |
| ECS | 200 = 20.000 MHz See P/N Guide | 20 = 20 pF S = Series | 20BQ = CSM-8Q | 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 |
| 7.3 | 5.3 | 16.0 | 7.5 | 8.0 | 1.5 | 0.3 | 1.9 | 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 |
| 098.3 | 9.83040 |
| 100 | 10.000 |
| 110.5 | 11.0592 |
| 120 | 12.000 |
| 150 | 15.000 |
| 160 | 16.000 |
| 200 | 20.000 |
| 240 | 24.000 |
| 250 | 25.000 |

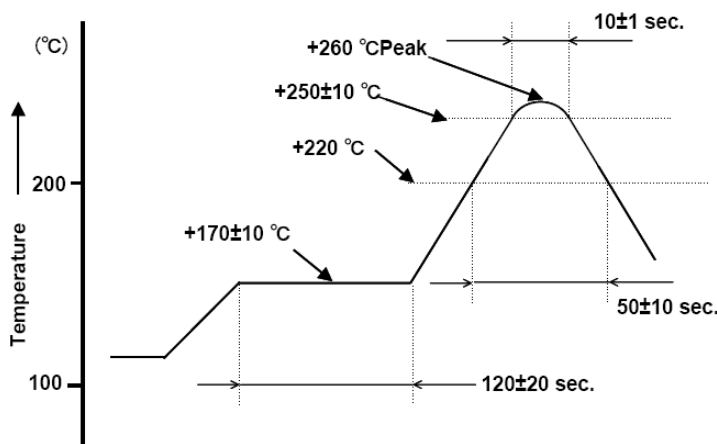


Figure 1) Suggested Reflow Profile

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[ECS-80-8-30Q-VY-TR](#) [ECS-320-8-37CKM](#) [ECS-320-12-37-CKM-TR](#) [ECOC-2522-16.384-3GS](#) [ECXV-P37C2N-12.000](#) [ECXV-P37C2M-](#)
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[ECXV-L37C2N-148.500](#) [ECX-L35BN-100.000](#) [ECS-200-8-37-CWN-TR](#) [ECS-080-18-1X](#) [ECS-120-32-5P-TR](#) [ECS-147.4-20-7S-TR](#) [ECS-](#)
[327MV-CN-TR](#) [ECX-P35BN-125.000](#) [ECS-240-20-4X](#) [ECS-2520S33-250-FN-TR](#) [ECS-160-18-23A-EN-TR](#) [ECS-MPI2520R0-3R3-R](#)
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