



2 Pad Ceramic Package Quartz Crystal, 3.5 mm x 6 mm



ILCX09 Series

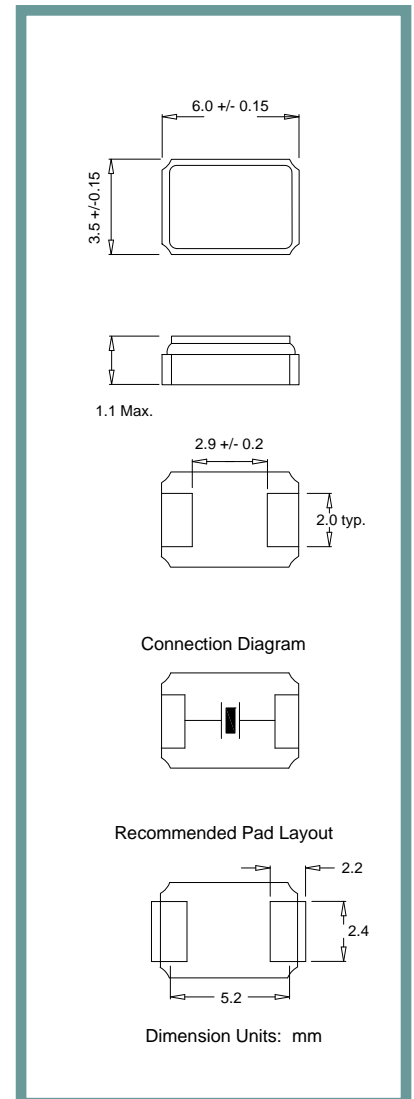
Product Features:

- Low Cost SMD Package
- Low Profile Package
- Compatible with Leadfree Processing

Applications:

- Fibre Channel
- Server & Storage
- Sonet /SDH
- 802.11 / Wifi
- T1/E1, T3/E3

| | |
|---|--|
| Frequency | 8 MHz to 100 MHz |
| ESR (Equivalent Series Resistance) | |
| 8 MHz – 48.0 MHz 36 MHz – 100 MHz (3 rd O.T.) | 60 Ω Max. 60 Ω Max. |
| Shunt Capacitance (C0) | 7 pF Max. |
| Frequency Tolerance @ 25° C | ±30 ppm Standard (see Part Number Guide for more options) |
| Frequency Stability over Temperature | ±50 ppm Standard (see Part Number Guide for more options) |
| Crystal Cut | AT Cut |
| Load Capacitance | 18 pF Standard (see Part Number Guide for more options) |
| Drive Level | 500 uW Max. |
| Aging | ±5 ppm Max. / Year Standard |
| Temperature | |
| Operating | 0° C to +70° C Standard (see Part Number Guide for more options) |
| Storage | -40° C to +85° C Standard |



| Part Number Guide | | Sample Part Number: ILCX09 - FB1F18 - 20.000 | | | | |
|-------------------|-------------------------------------|--|-----------------------------|------------------------------|------------------------------|--------------|
| Package | Tolerance (ppm) at Room Temperature | Stability (ppm) over Operating Temperature | Operating Temperature Range | Mode (overtone) | Load Capacitance (pF) | Frequency |
| ILCX09 - | B = ±50 ppm | B = ±50 ppm | 0 = 0°C to +50°C | F = Fundamental | 18 pF Standard Or Specify | - 20.000 MHz |
| | F = ±30 ppm | F = ±30 ppm | 1 = 0°C to +70°C | 3 = 3 rd overtone | | |
| | G = ±25 ppm | G = ±25 ppm | 2 = -10°C to +60°C | | | |
| | H = ±20 ppm | H = ±20 ppm | 3 = -20°C to +70°C | | | |
| | I = ±15 ppm | I = ±15 ppm** | 5 = -40°C to +85°C | | | |
| | J = ±10 ppm* | J = ±10 ppm** | 9 = -10°C to +50°C | | | |

* Not available at all frequencies. ** Not available for all temperature ranges.



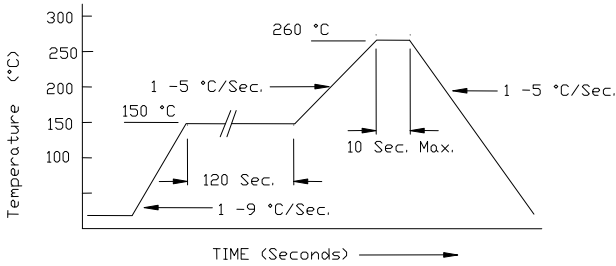
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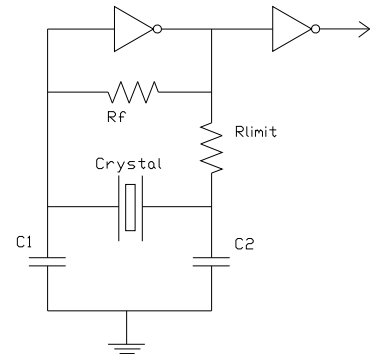
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Pb Free Solder Reflow Profile:

Typical Circuit:



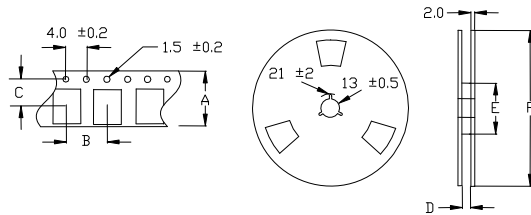
*Units are backward compatible with 240C reflow processes



Package Information:

MSL = 1
Termination = e4 (Au over Ni over W base metal).

Tape and Reel Information:



| Quantity per Reel | 1000 |
|-------------------|--------------|
| A | 16 +/- .3 |
| B | 8 +/- .2 |
| C | 7.5 +/- .2 |
| D | 17.5 +/- .1 |
| E | 50 / 60 / 80 |
| F | 180 / 250 |

Environmental Specifications

| | |
|------------------------------|--|
| Thermal Shock | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Mechanical Vibration | MIL-STD-883, Method 2007, Condition A |
| Resistance to Soldering Heat | J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max) |
| Hazardous Substance | Pb-Free / RoHS / Green Compliant |
| Solderability | JESD22-B102-D Method 2 (Preconditioning E) |
| Terminal Strength | MIL-STD-883, Method 2004, Test Condition D |
| Gross Leak | MIL-STD-883, Method 1014, Condition C |
| Fine Leak | MIL-STD-883, Method 1014, Condition A2, R1=2x10 ⁻⁸ atm cc/s |
| Solvent Resistance | MIL-STD-202, Method 215 |

Marking

Line 1: ILSI, Date Code (yww)
Line 2: Frequency