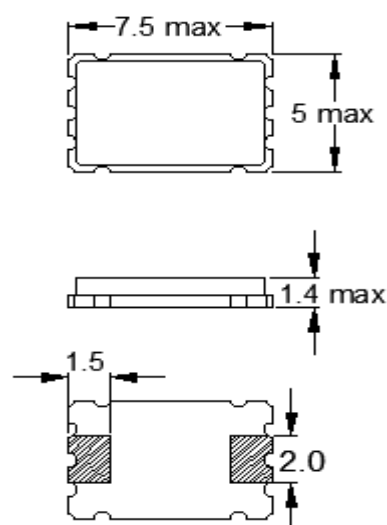
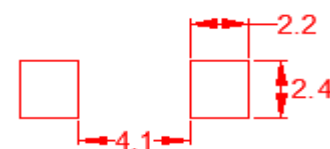


**Features**

- Tolerances down to  $\pm 30$  PPM
- Stabilities down to  $\pm 15$  PPM
- Temperature Ranges as wide as  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

| STANDARD SPECIFICATIONS                        |                                                |
|------------------------------------------------|------------------------------------------------|
| PARAMETERS                                     | MAX (Unless otherwise noted)                   |
| Frequency Range                                | 6.000 ~ 50.000 MHz                             |
| Frequency Tolerance @ $25^{\circ}\text{C}$     | (See options below)                            |
| Frequency Stability, ref $25^{\circ}\text{C}$  | (See options below)                            |
| Temperature Range                              |                                                |
| Operating ( $T_{\text{OPR}}$ )                 | (See options below)                            |
| Storage ( $T_{\text{STG}}$ )                   | $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ |
| Shunt Capacitance ( $C_0$ )                    | 7 pF                                           |
| Load Capacitance ( $C_L$ )                     | (See options below)                            |
| Drive Level                                    | 0.5 mW                                         |
| Aging per year (@ $25^{\circ}\text{C}$ )       | $\pm 5$ PPM                                    |
| Maximum Soldering Temp / Time                  | $260^{\circ}\text{C}$ / 10 Seconds x 2         |
| Moisture Sensitivity Level (MSL) per J-STD-033 | 1                                              |
| Termination Finish                             | Au over Ni                                     |
| Seal Method                                    | Resin                                          |
| Lead (Pb) Free                                 | Yes                                            |
| RoHS Compliant                                 | Yes                                            |

| Frequency Range (MHz) | Operating Mode | Max ESR $\Omega$ |
|-----------------------|----------------|------------------|
| 6.000 ~ 7.999         | Fundamental    | 80               |
| 8.000 ~ 9.999         | Fundamental    | 60               |
| 10.000 ~ 15.999       | Fundamental    | 50               |
| 16.000 ~ 50.000       | Fundamental    | 40               |

**DIMENSIONS / MECHANICAL SPECIFICATIONS****Recommended Solder Pad Layout**

Dimensions in mm

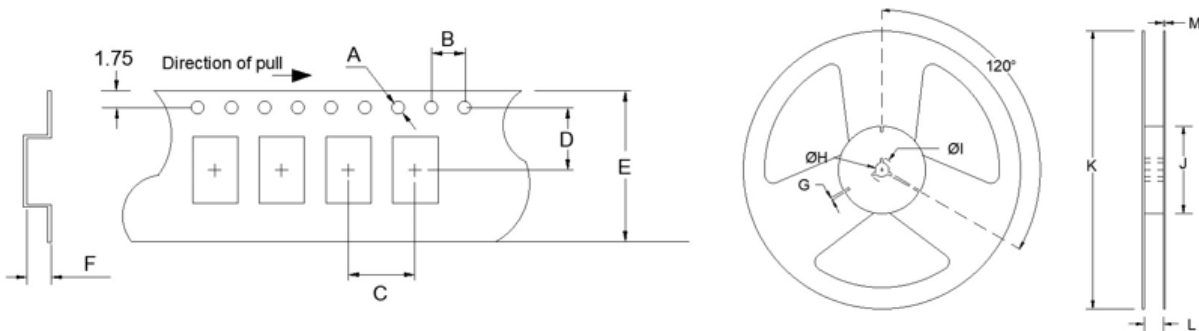
Note: Dimensional drawing is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, etc. may vary.

**AVAILABLE OPERATING TEMPERATURES AND STABILITIES\***

| Operating Temperature                          | $\pm 15$ PPM | $\pm 20$ PPM | $\pm 25$ PPM | $\pm 30$ PPM | $\pm 50$ PPM |
|------------------------------------------------|--------------|--------------|--------------|--------------|--------------|
| $-0^{\circ}\text{C} \sim +75^{\circ}\text{C}$  | O            | O            | O            | O            | O            |
| $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$ | O            | O            | O            | O            | O            |
| $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$ | O            | O            | O            | O            | O            |
| $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$ | O            | O            | O            | O            | O            |
| $-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | X            | O            | O            | O            | O            |
| $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | X            | O            | O            | O            | O            |

Key: O = Available, X = Not Available,  $\Delta$  = Consult Fox Technical Support, \*Does not imply a stocked part.

| TAPE SPECIFICATIONS (mm) |     |     |     |      |     |                                    | REEL SPECIFICATIONS (mm) |     |     |     |              |      |     |
|--------------------------|-----|-----|-----|------|-----|------------------------------------|--------------------------|-----|-----|-----|--------------|------|-----|
| A                        | B   | C   | D   | E    | F   | REEL QTY                           | G                        | H   | I   | J   | K            | L    | M   |
| ø1.5                     | 4.0 | 8.0 | 7.5 | 16.0 | 2.3 | -T1 = 1,000<br>-T2 = 2,000 Default | 2.0                      | ø13 | ø21 | ø80 | ø180<br>ø250 | 17.5 | 2.0 |



| Available Options & Part Identification for Ceramic SMD Crystal FC7AS <sup>1</sup> |                     |                                                |                                                                                             |                                                                                                        |                                                                                                                                                           |                        |                                                                                 |
|------------------------------------------------------------------------------------|---------------------|------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------|
| Sample PN: <b>FC7ASCCLM40.0-T2</b>                                                 |                     |                                                |                                                                                             |                                                                                                        |                                                                                                                                                           |                        |                                                                                 |
| F                                                                                  | C7AS                | C                                              | C                                                                                           | L                                                                                                      | M                                                                                                                                                         | 40.0                   | -T2                                                                             |
| <b>Fox</b>                                                                         | <b>Model Number</b> | <b>Tolerance</b><br>B = ±50 PPM<br>C = ±30 PPM | <b>Stability</b><br>B = ±50 PPM<br>C = ±30 PPM<br>D = ±25 PPM<br>E = ±20 PPM<br>F = ±15 PPM | <b>Load Capacitance<sup>2</sup></b><br>E = 10pF<br>G = 12pF<br>J = 15pF<br>L = <b>18pF</b><br>M = 20pF | <b>Operating Temperature</b><br>C = 0 to +70°C<br>D = -10 to +60°C<br>E = -10 to +70°C<br>F = -20 to +70°C<br>K = -30 to +85°C<br>M = <b>-40 to +85°C</b> | <b>Frequency (MHz)</b> | <b>Values Added Options</b><br>Blank = Bulk<br>T1 = 1,000 pcs<br>T2 = 2,000 pcs |

1 Not all frequency, tolerance, stability, load, and operating temperature combinations may be available.

2 Listed load capacitances represent the most commonly used. Other load capacitances are available. Contact us for assistance

| Reliability Test Conditions                         |
|-----------------------------------------------------|
| Please contact Abracon Quality Assurance department |