

FC7BS

(Former FD)

7mm x 5mm
Ceramic SMD Crystal



Features

- Tolerances down to ± 10 PPM
- Stabilities down to ± 5 PPM
- Operating Temperature Range to $-55^{\circ}\text{C} \sim +125^{\circ}$

| STANDARD SPECIFICATIONS | |
|--|---|
| PARAMETERS | MAX (Unless otherwise noted) |
| Frequency Range | 6.000 ~ 50.000 MHz |
| Frequency Tolerance @ 25°C | (See options below) |
| Frequency Stability, ref 25°C | (See options below) |
| Temperature Range | |
| Operating (T_{OPR}) | (See options below) |
| Storage (T_{STG}) | $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ |
| Shunt Capacitance (C_0) | 5 pF |
| Load Capacitance (C_L) | (See options below) |
| Drive Level | |
| 6.000 ~ 50.000 MHz | 0.5 mW |
| Aging per year (@ 25°C) | ± 3 PPM |
| Maximum Soldering Temp / Time | $260^{\circ}\text{C} / 10$ Seconds x 2 |
| Moisture Sensitivity Level (MSL) per J-STD-033 | Not Applicable |
| Termination Finish | Au over Ni |
| Seal Method | Seam |
| Lead (Pb) Free | Yes |
| RoHS Compliant | Yes |

| Frequency Range (MHz) | Operating Mode | Max ESR Ω |
|-----------------------|----------------|------------------|
| 6.000 ~ 9.999999 | Fundamental | 80 |
| 10.000 ~ 15.999999 | Fundamental | 50 |
| 16.000 ~ 31.999999 | Fundamental | 40 |
| 32.000 ~ 39.999999 | Fundamental | 30 |
| 40.000 ~ 50.000000 | Fundamental | 20 |

| DIMENSIONS / MECHANICAL SPECIFICATIONS |
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| Dimensions in mm |
| Recommended Solder Pad Layout |
| Pin Connections #4 - Lid/Gnd #3 - Crystal #1 - Crystal #2 - Lid/Gnd |
| 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. Cut corner/rounded pad not shown. Crystal has no polarity and cannot be placed incorrectly; pin numbers are for reference only. |

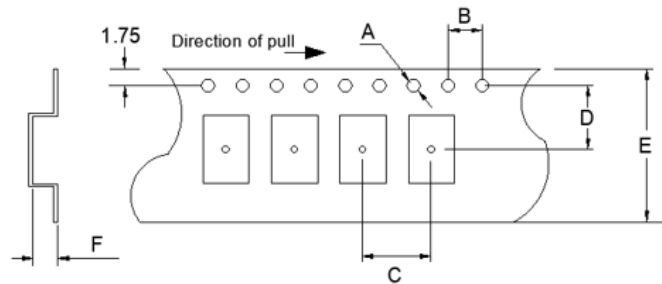
AVAILABLE OPERATING TEMPERATURES AND STABILITIES*

| Operating Temperature | ±5 PPM | ±10 PPM | ±15 PPM | ±20 PPM | ±25 PPM | ±30 PPM | ±50 PPM | ±100 PPM |
|-----------------------|--------|---------|---------|---------|---------|---------|---------|----------|
| -0°C ~ +70°C | X | O | O | O | O | O | O | N/A |
| -10°C ~ +60°C | O | O | O | O | O | O | O | N/A |
| -10°C ~ +70°C | X | O | O | O | O | O | O | N/A |
| -20°C ~ +70°C | X | O | O | O | O | O | O | N/A |
| -30°C ~ +85°C | X | X | O | O | O | O | O | N/A |
| -40°C ~ +85°C | X | X | O | O | O | O | O | N/A |
| -40°C ~ +105°C | X | X | X | X | X | X | O | O |
| -40°C ~ +125°C | X | X | X | X | X | X | O | O |
| -55°C ~ +155°C | X | X | X | X | X | X | O | O |

Key: O = Available, X = Not Available, N/A = Not Applicable

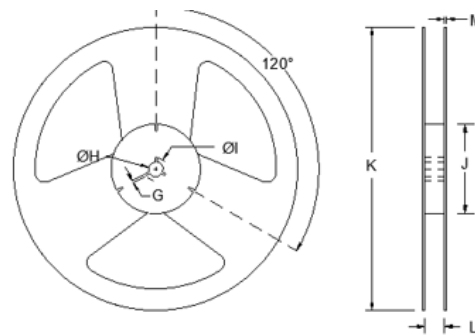
TAPE SPECIFICATIONS (mm)

| A | B | C | D | E | F | REEL QTY |
|-------|-----|-----|-----|------|-----|----------------------------|
| ø1.55 | 4.0 | 8.0 | 7.5 | 16.0 | 1.7 | -T1 = 1,000 -T2 = 2,000 |



REEL SPECIFICATIONS (mm)

| G | H | I | J | K | L | M |
|-----|-----|-----|------------|--------------|------|-----|
| 2.0 | ø13 | ø21 | ø60 ø80 | ø180 ø250 | 17.5 | 2.0 |





| Available Options & Part Identification for Crystal Model C7BS ¹ | | | | | | | |
|---|---------------------|---|---|---|--|------------------------|--|
| Sample PN: <u>FC7BSBBMD25.0-T1</u> | | | | | | | |
| F | C7BS | B | B | M | D | 25.0 | -T1 |
| <u>Fox</u> | <u>Model Number</u> | <u>Tolerance</u> | <u>Stability</u> | <u>Load Capacitance</u> ² | <u>Operating Temperature</u> | <u>Frequency (MHz)</u> | <u>Values Added Options</u> |
| | | B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM | A = ±100 PPM B = ±50 PPM C = ±30 PPM D = ±25 PPM E = ±20 PPM F = ±15 PPM H = ±10 PPM L = ±5 PPM | E = 10pF G = 12pF J = 15pF K = 16pF L = 18pF M = 20pF | C = 0 to +70°C D = -10 to +60°C E = -10 to +70°C F = -20 to +70°C K = -30 to +85°C M = -40 to +85°C P = -40 to +105°C I = -40 to +125°C T = -55 to +125°C | | Blank = Bulk T1 = 1,000 pcs 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

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