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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## 3.2mm x 2.5mm SMD Crystal

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- Tolerances down to 20 PPM
- Stabilities down to 20 PPM

| • STANDARD SPECIFICATIONS        |                              |  |  |  |  |
|----------------------------------|------------------------------|--|--|--|--|
| PARAMETERS                       | MAX (unless otherwise noted) |  |  |  |  |
| Frequency Range (Fo)             | 12.000 ~ 50.000 MHz          |  |  |  |  |
| Frequency Tolerance @ 25°C       | (See options on page 2)      |  |  |  |  |
| Frequency Stability, ref @ 25°C  |                              |  |  |  |  |
| Over Operating Temp Range        | (See options below)          |  |  |  |  |
| Temperature Range                |                              |  |  |  |  |
| Operating (TOPR)                 | (See options on page 2)      |  |  |  |  |
| Storage (Tstg)                   | -55°C ~ +125°C               |  |  |  |  |
| Shunt Capacitance (Co)           | 3 pF                         |  |  |  |  |
| Load Capacitance (CL)            | (See options on page 2)      |  |  |  |  |
| Drive Level                      | 0.1 mW                       |  |  |  |  |
| Aging per year                   | ±5 PPM                       |  |  |  |  |
| Maximum Soldering Temp / Time    | 260°C / 10 Seconds           |  |  |  |  |
| Moisture Sensitivity Level (MSL) | 1                            |  |  |  |  |
| Termination Finish               | Au                           |  |  |  |  |
| Seam Method                      | Resin Sealed                 |  |  |  |  |
| Lead (Pb) Free                   | YES                          |  |  |  |  |
| RoHS / REACH Compliant           | YES                          |  |  |  |  |

| Frequency Range<br>(MHz) | Operating Mode | Max ESR $\Omega$ |
|--------------------------|----------------|------------------|
| 12.000 ~ 15.999999       | Fundamental    | 120              |
| 16.000 ~ 20.000          | Fundamental    | 100              |
| 20.000001 ~ 25.000       | Fundamental    | 80               |
| 25.000001 ~ 30.000       | Fundamental    | 60               |
| 30.000001 ~ 50.000       | Fundamental    | 50               |

#### Available Operating Temperatures and Stabilities\*

| Stability Temperature  | ±20 PPM | ±25 PPM | ±30 PPM | ±50 PPM |  |  |
|--|---------|---------|---------|---------|--|--|
| -10 ~+70°C   | 0       | 0       | 0       | 0       |  |  |
| -20 ~+70°C   | 0       | 0       | 0       | 0       |  |  |
| -40 ~+85ºC   | Δ       | 0       | 0       | 0       |  |  |
| Kana O. Available V. Nat Available A. Canardt Fau Tabrical Commant |         |         |         |         |  |  |

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

| 3.2 ±0.2<br>Top<br>View                      |
|--|
| 1.1 Max  1.0 0.9  Bottom View                |
| Recommended Solder pad layout  1.3  1.2  0.5 |
| All dimensions are in millimeters            |

| 86  | Title / Description: C3BQ STANDARD SPECIFICATIONS |         |                          |  |
|---|---|---------|--------------------------|--|
|   | Drawing Number: 1006                              | Size: A |                          |  |
| FOX   | Part Number:                                      |         | Cage: 61429              |  |
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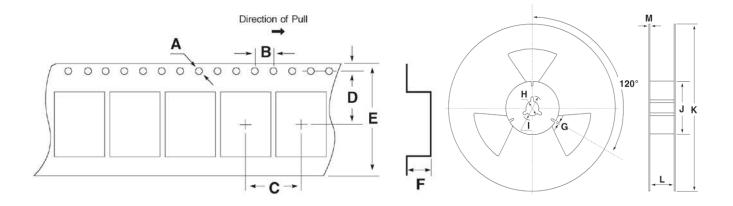


### 3.2mm x 2.5mm SMD Crystal

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| TAPE SPECIFICATIONS (millimeters) |     |     |     |     |      |              |  |
|-----------------------------------|-----|-----|-----|-----|------|--------------|--|
| Α                                 | В   | С   | D   | E   | F    | STD Reel QTY |  |
| Ø1.5                              | 4.0 | 4.0 | 3.5 | 8.0 | 1.25 | 3,000        |  |

| • REEL SPECIFICATIONS (millimeters) |     |     |     |      |     |     |
|-------------------------------------|-----|-----|-----|------|-----|-----|
| G                                   | Н   | - 1 | J   | K    | L   | M   |
| 2.0                                 | Ø13 | Ø21 | Ø62 | Ø178 | 9.0 | 1.2 |



# Available Options & Part Identification for SMD Crystal C3BQ\* F C3BQ B B M E 25.0

| F   | C3BQ                   | В   | В   | M  | Е   | 25.0               |
|-----|------------------------|---|---|--|---|--------------------|
| FOX | Model<br><u>Number</u> | Tolerance B=50ppm C=30ppm D=25ppm E=20ppm | Stability B=50ppm C=30ppm D=25ppm E=20ppm | Load Capacitance V=7pF D=8pF E=10pF G=12pF K=16pF L=18pF M=20pF N=22pF | Operating Temperature E=-10 to +70C F=-20 to +70C M=-40 to +85C | Frequency<br>(MHz) |

<sup>\*</sup> Not all frequency, tolerance, stability, load, and operating temperature combinations may be available.

| 88  | Title / Description: C3BQ STANDARD SPECIFICATIONS |         |                          |  |
|---|---|---------|--------------------------|--|
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| FOX   | Part Number:                                      |         | <b>Cage:</b> 61429       |  |
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#### 3.2mm x 2.5mm SMD Crystal

C3BQ (former FQ3225B) DATASHEET

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| C3BQ (former FQ3225B) Standard Crystals |           |            |            |              |      |  |  |
|---|-----------|------------|------------|--------------|------|--|--|
| Part Number                             | Frequency | Tolerance  | Stability  | Temp Range   | CL   |  |  |
| FQ3225B-12.000                          | 12.000000 | +/- 50 ppm | +/- 50 ppm | -10 to +70 C | 20pF |  |  |
| FQ3225B-16.000                          | 16.000000 | +/- 50 ppm | +/- 50 ppm | -10 to +70 C | 20pF |  |  |
| FQ3225B-20.000                          | 20.000000 | +/- 50 ppm | +/- 50 ppm | -10 to +70 C | 20pF |  |  |
| FQ3225B-24.000                          | 24.000000 | +/- 50 ppm | +/- 50 ppm | -10 to +70 C | 20pF |  |  |
| FQ3225B-25.000                          | 25.000000 | +/- 50 ppm | +/- 50 ppm | -10 to +70 C | 20pF |  |  |
| FQ3225BR-12.000                         | 12.000000 | +/- 50 ppm | +/- 50 ppm | -40 to +85 C | 20pF |  |  |
| FQ3225BR-16.000                         | 16.000000 | +/- 50 ppm | +/- 50 ppm | -40 to +85 C | 20pF |  |  |
| FQ3225BR-20.000                         | 20.000000 | +/- 50 ppm | +/- 50 ppm | -40 to +85 C | 20pF |  |  |
| FQ3225BR-24.000                         | 24.000000 | +/- 50 ppm | +/- 50 ppm | -40 to +85 C | 20pF |  |  |
| FQ3225BR-25.000                         | 25.000000 | +/- 50 ppm | +/- 50 ppm | -40 to +85 C | 20pF |  |  |



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| 88  | Title / Description: C3BQ STANDARD SPECIFICATIONS |                          |             |  |  |
|---|---|--------------------------|-------------|--|--|
| _32_  | Drawing Number: 1006                              | Size: A                  |             |  |  |
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