

# SPECIFICATION

COMMERCIALLY AVAILABLE

ITEM: TUBULAR CRYSTAL  
PART NUMBER: XN-353  
ROHS

| ISSUED / REVISION       | ENGINEER APPROVED | DOCUMENT CHECKED | DRAFTSMAN     |
|-------------------------|-------------------|------------------|---------------|
| 1/30/13 DS              | 01/31/2013 TFG    |                  | 02/07/2013 GL |
|                         |                   |                  |               |
| <b>FILTRONETICS Inc</b> |                   |                  |               |

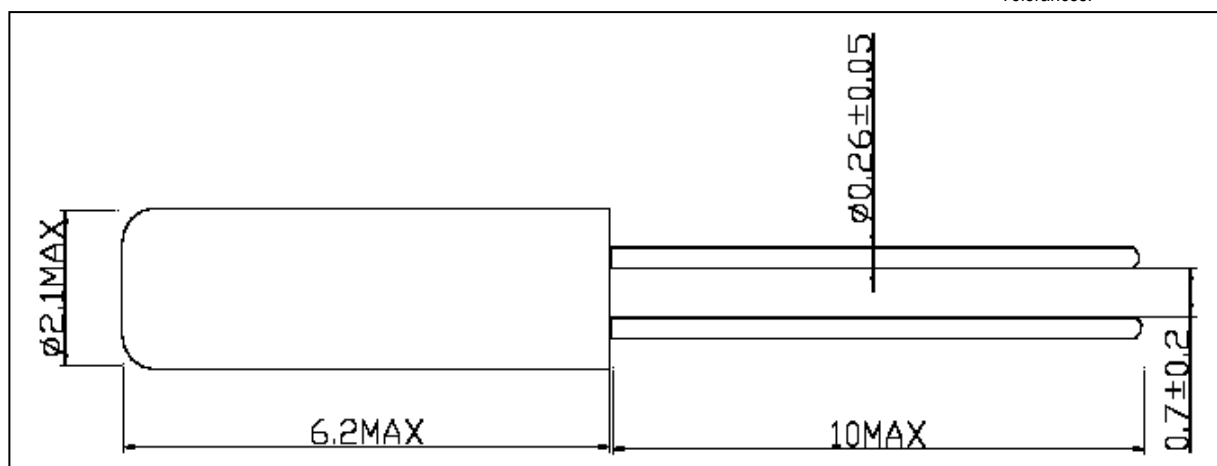
## 1. Part Number XN-353

## 2. Electrical Specifications:

|                                                                       |                                                                                                      |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Frequency Range:                                                      | 32.768KHz                                                                                            |
| Turn-over temperature:                                                | 25°C ±5°C                                                                                            |
| Operating Temperature:                                                | -20°C to +70°C                                                                                       |
| Storage Temperature:                                                  | -40°C to +85°C                                                                                       |
| Frequency Tolerance:                                                  | ±20 ppm max.                                                                                         |
| Frequency Stability:                                                  | -0.034±0.006 ppm/(25-T)                                                                              |
| Equivalent Series Resistance                                          | 50 KΩ MAX                                                                                            |
| Shunt Capacitance CO:                                                 | 1.35pF typ.                                                                                          |
| Load Capacitance CL:                                                  | 12.5 pF typical                                                                                      |
| Motional Capacitance C1:                                              | 0.0030pF typ.                                                                                        |
| Capacitance ratio:                                                    | 450 typ.                                                                                             |
| Quality Factor:                                                       | 70.000 typ.                                                                                          |
| Drive Level:                                                          | 1.0uW correlation                                                                                    |
| Aging @ 250C per year:                                                | ±3ppm max.                                                                                           |
| Insulation resistance:                                                | 500 MΩ min. at 100 Vdc ±15 Vdc                                                                       |
| Soldering Information:<br>Target Peak Temperature of 260C             | Max 1.5 to 3 seconds<br>Temperatures shown are applied to back of PCB board<br>and device leads only |
| Note: for reflow soldering, please use the higher temp watch crystals |                                                                                                      |
| Environmental & Mechanical Specifications:                            | Shock: Drop test 3 times on a hard wooden platform<br>from 75cm.                                     |
| Marking Permanency:                                                   | MIL-STD-202, Method 215                                                                              |
| All specifications subject to change without notice                   |                                                                                                      |
| RoHS                                                                  |                                                                                                      |

## 4. Mechanical Package: Dimensions: mm

Marking:  
XN-353



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5. Temperature:

Target Peak Temperature 260C max, for 1.5 to 3 seconds

