

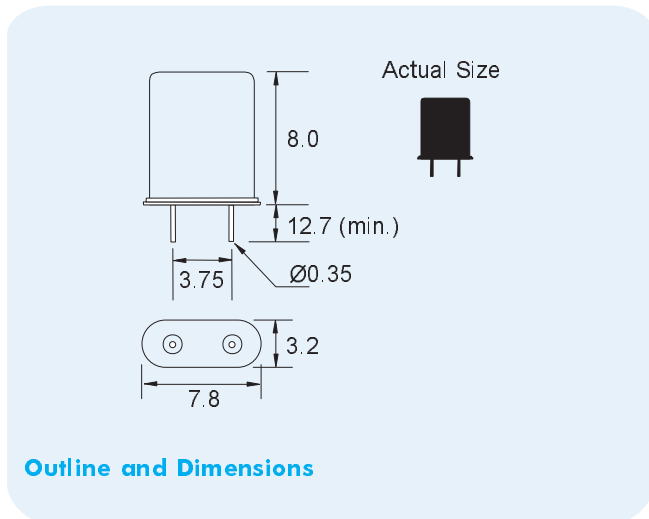
## QUARTZ CRYSTALS

### HFF CRYSTALS

HIGH-FREQUENCY  
FUNDAMENTAL  
QUARTZ CRYSTALS

### General Specification

<b>Frequency range:</b>	35.0MHz to 160MHz .
<b>Mode:</b>	AT-Cut Fundamental
<b>Holder:</b>	UM-1
<b>Sealing Method:</b>	Resistance weld.
<b>Frequency adjustment at 25°C:</b>	±20ppm (Standard) ±10, ±30, ±50ppm (Option)
<b>Frequency stability over temp.:</b>	From ±20ppm over -20° to +70°C
<b>Operating Temperature Range:</b>	0° ~ +70248 (Standard) -20° to +70°, -40° to +85°C (Option)
<b>Storage Temperature Range:</b>	-55° to +125°C
<b>Shunt Capacitance:</b>	5pF maximum
<b>Insulation Resistance:</b>	500MΩ min. at 100VDC
<b>Drive Level:</b>	100μW maximum
<b>Motional Capacitance (C1):</b>	2ff to 15ff
<b>Load Capacitance (CL):</b>	18pF (Standard) Series Resonant or >10pF Customer specified
<b>C0/C1 Ratio:</b>	Customer specified
<b>Ageing:</b>	±3ppm/year



### Custom crystal service

Due to the custom-designed nature of High Frequency Fundamental (HFF) crystals, Euroquartz produce HFF crystals to customer's specifications. There is a short lead time from design to production for these parts. Contact Euroquartz application engineers to discuss your requirements.

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- Fundamental Frequency 35MHz to 160MHz
- Low ESR from 15Ω
- Ideal for low-noise oscillators

#### Frequency v. ESR v. Operating Mode

Frequency Range	ESR Ω	Mode/Cut
35.0MHz to 50.0MHz	15 max.	Fundamental AT
50.0MHz to 100.0MHz	20 max.	Fundamental AT
100.0MHz to 160.0MHz	25 max.	Fundamental AT

### To order

Specify frequency, Style (HFF), stability and operating temperature range code (table below), circuit condition. To assist ordering and reordering a unique part number can be allocated for customer designs.

#### Frequency v. ESR v. Operating Mode

Code	Tolerance @ 25°C	Temperature Stability	Operating Temp. Range
Blank	±50ppm	±100ppm	0° to +70°C
A	±50ppm	±100ppm	-20° to +70°C
B	±50ppm	±100ppm	-40° to +85°C
C	±30ppm	±50ppm	0° to +70°C
D	±30ppm	±50ppm	-20° to +70°C
E	±20ppm	±30ppm	0° to +85°C
F	±20ppm	±30ppm	-20° to +70°C
G	±10ppm	±20ppm	-20° to +70°C

**Order Code Example:**  
**72.0MHz HFF A 18pF**

**Describes: Frequency 72.0MHz, ±50ppm @25°C, ±100ppm over 0° to +70°C, CL = 18pF**