



# Quartz Crystal

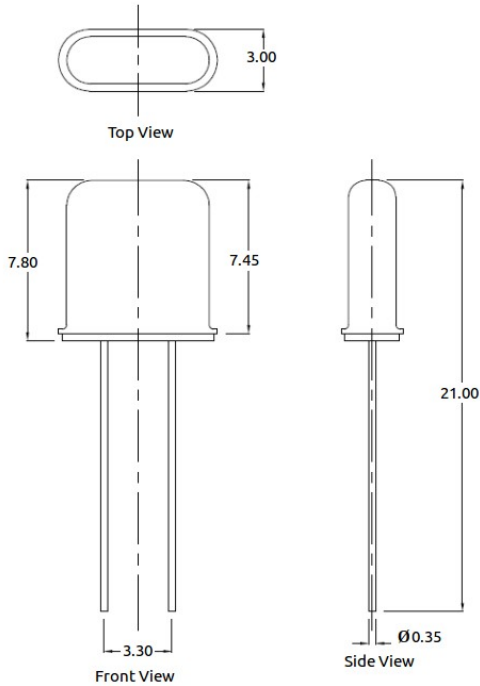
## UM1

### Features

- Resistance weld package
- 8.000 MHz ~ 150 MHz
- RoHS Compliant

### Mechanical Specifications

#### Outline



▲ All dimensions are in mm. Tolerance is  $\pm 0.2$  mm, unless otherwise specified.

#### Table 1: General Specifications

Frequency Range	8.000 MHz ~ 150 MHz
Frequency Tolerance @ 25°C	Select from Table 4
Operating Temperature Range (OTR)	Select from Table 4
Temperature Stability	Select from Table 4
Equivalent Series Resistance	As per Table 3
Drive Level	100 $\mu$ Watts (typical)
Shunt Capacitance, $C_0$	7.0 pF (max.)
Resonance Condition	XXS – Series, XXP – Parallel with xx pF (for parallel, please specify the xx value in pF)
Aging @ 25°C	$\pm 3$ ppm (max.) / Year

#### Table 2: Frequency Range By Mode of Oscillation

Fundamental	3rd Overtone	5th Overtone
8.000 to 36.864 MHz	20.0 to 85 MHz	60 to 150 MHz

#### Table 3: Max. ESR

Frequency Range (MHz)	ESR	Frequency Range (MHz)	ESR
<b>Fundamental</b>		<b>3rd Overtone</b>	
8.0 to $\leq 10.0$	45 $\Omega$	20.0 to $\leq 30.0$	45 $\Omega$
10.0 to $\leq 12.0$	30 $\Omega$	30.0 to $\leq 85.0$	30 $\Omega$
12.0 to $\leq 17.0$	25 $\Omega$	<b>5th Overtone</b>	
17.0 to $\leq 36.864$	20 $\Omega$	60.0 to $\leq 100.0$	70 $\Omega$
		100.0 to $\leq 140.0$	80 $\Omega$
		140.0 to $\leq 170.0$	100 $\Omega$

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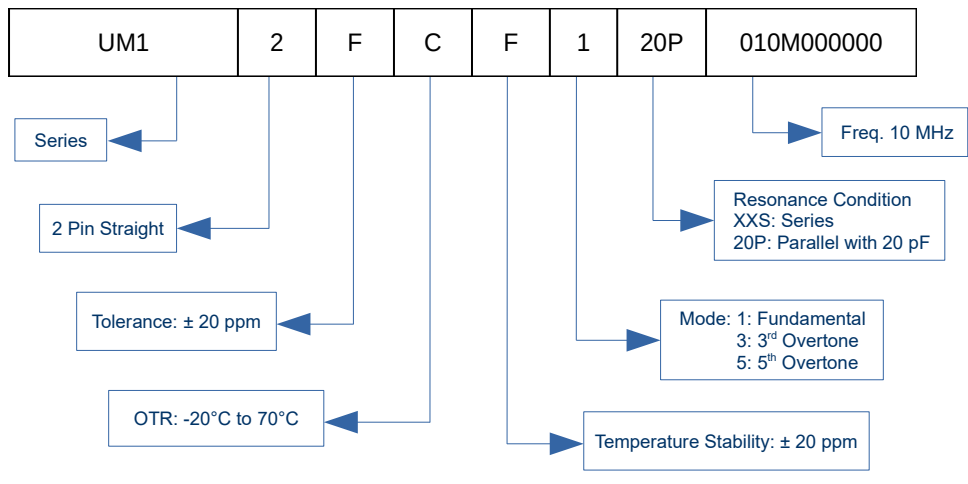
**Table 4: Operating Temperature Range and Frequency Tolerance/ Temperature Stability**

OTR Codes	Stability Codes		B	D	E	F	G	M	K
	Temperature Stability		± 5 ppm	± 10 ppm	± 15 ppm	± 20 ppm	± 25 ppm	± 50 ppm	± 100 ppm
A	Operating Temperature Range	0°C to +50°C							
B		0°C to +60°C							
F		0°C to +70°C							
D		-10°C to +60°C							
E		-10°C to +70°C							
C		-20°C to +70°C							
G1		-30°C to +70°C							
G		-30°C to +80°C							
H		-30°C to +85°C							
I		-40°C to +85°C							
J		-40°C to +90°C							
K		-55°C to +105°C							
L		-55°C to +125°C							

 Denotes Available       Denotes not Available

## Ordering Information

### Example



Specifications subject to change without prior notice

Rev. Date: 10<sup>th</sup> December 2021

Note: Not all combination of options are available. Other specifications may be available upon request.

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