



# Quartz Crystal

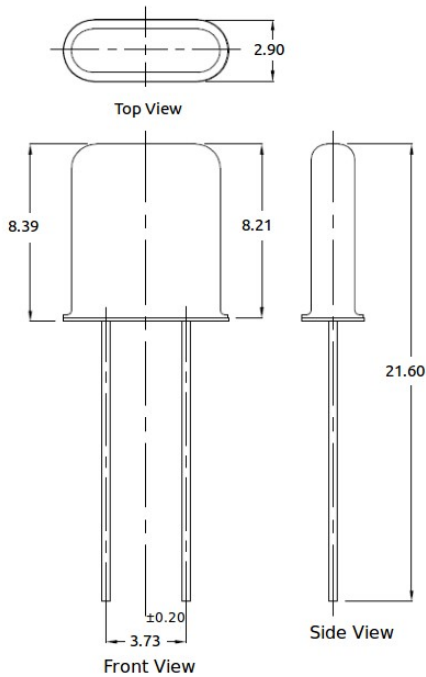
## UM1 COLD WELD (HC-45/U)

### Features

- All metal welded package
- 7.5 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	7.500 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 (ESR)	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	$\pm 1$ ppm (max.)/ Year

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

Fundamental	3rd Overtone	5th Overtone
1.8432 to 36.864 MHz	20.0 to 85 MHz	60 to 150 MHz

#### Table 3: Max. ESR

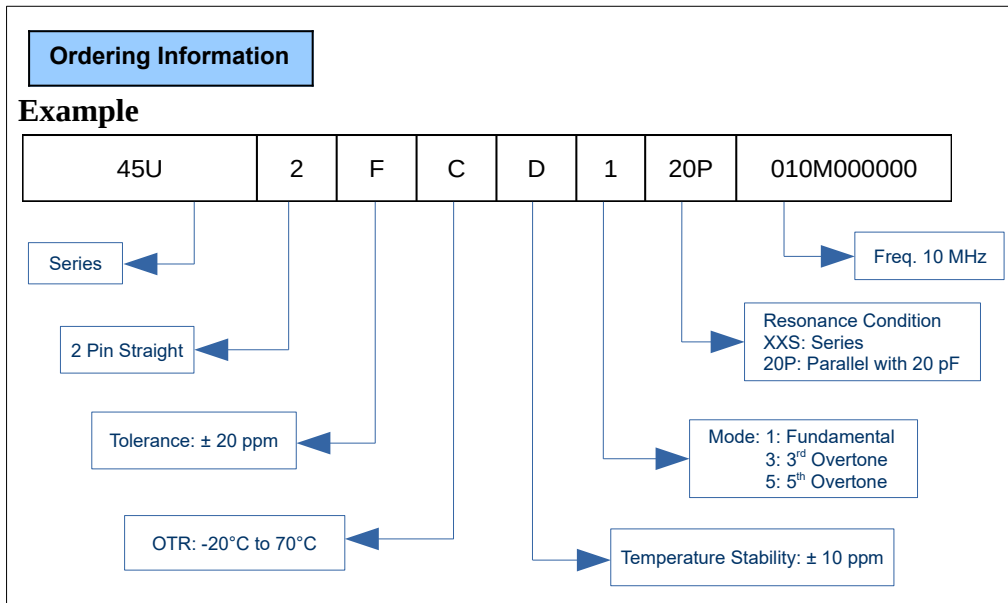
Frequency Range (MHz)	ESR	Frequency Range (MHz)	ESR
<b>Fundamental</b>		<b>3rd Overtone</b>	
7.5 to $\leq 10.0$	50 $\Omega$	20.0 to $\leq 30.0$	35 $\Omega$
10.0 to $\leq 13.0$	40 $\Omega$	30.0 to $\leq 85.0$	30 $\Omega$
13.0 to $\leq 18.0$	25 $\Omega$	<b>5th Overtone</b>	
18.0 to $\leq 25.0$	20 $\Omega$	60.0 to $\leq 100.0$	70 $\Omega$
25.0 to $\leq 41.0$	15 $\Omega$	100.0 to $\leq 150.0$	80 $\Omega$

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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							
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



Specifications subject to change without notice

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

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