

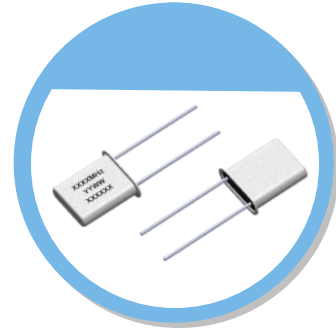
# X5(HC-45U) Type

## FEATURE

- 8.6 x 3.1 x 8 mm HC-45U Cold Weld
- Gold Electrode, Vacuum
- Fast Warm up
- High Stability, Low Temperature Frequency Coefficient
- Good Aging and Reliability

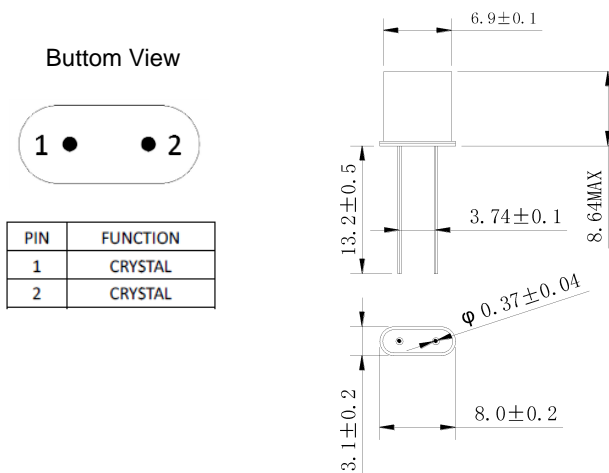
## TYPICAL APPLICATION

- Precision OCXO, VCXO and TCXO oscillators



**RoHS Compliant**

## DIMENSION (mm)



## EQUIVALENT SERIES RESISTANCE (E.S.R)

Frequency Range	MODE(Cut)	E.S.R.
19.2 MHz ≤ Fo ≤ 22 MHz	SC / IT 3 <sup>rd</sup> OT	≤ 150Ω
22 MHz < Fo ≤ 30 MHz	SC / IT 3 <sup>rd</sup> OT	≤ 80Ω
30 MHz < Fo ≤ 60 MHz	SC / IT 3 <sup>rd</sup> OT	≤ 80Ω
60 MHz < Fo ≤ 128 MHz	SC / IT 5 <sup>th</sup> OT	≤ 120Ω

## ELECTRICAL SPECIFICATION

Parameter	Min.	Typical	Max.	Unit
Operating Temp. Range	-55		+125	°C
Standard Frequency	20, 25.6, 30, 50			MHz
Turn Point	+75 °C to +105 °C (mode, cut, frequency dependent, other turn points available)			°C
Frequency Tolerance @ Turn Point	±3	±5	±10	ppm
Level of Drive		100	500	μW
Shunt Capacitance (C0)			7.0	pF
Insulation Resistance	500MΩ @ DC100V			
Aging	±0.05 to ±1.0			ppm/year

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

## STANDARD OPTIONS

Nominal Frequency(MHz)	MODE(Cut)	R(Ω)	C0(pF)	C1(fF)	Q(Typical)	Aging(ppm/year)
20 MHz	IT 3 <sup>rd</sup> OT	< 100	< 3.0	0.17 ± 20%	400k	0.1
25 MHz	IT 3 <sup>rd</sup> OT	< 60	< 3.5	0.45 ± 20%	300k	0.1
32.768 MHz	SC 3 <sup>rd</sup> OT	< 60	< 4.0	0.55 ± 20%	250k	0.3
100 MHz	SC 5 <sup>th</sup> OT	< 110	< 5.5	1.54 ± 30%	100k	0.5

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

Specifications subject to change without notice