

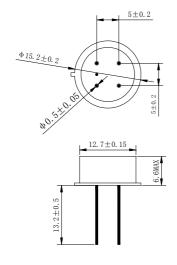
X7(TO-8) Type

- Ø 15 x 6.5mm TO-8 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

DIMENSION (mm)





EQUIVALENT SERIES RESISTANCE (E.S.R)

Frequency Range	MODE(Cut)	E.S.R.
4 MHz≦Fo≦8 MHz	AT Fundamental	≦20Ω
8 MHz <fo≦10 mhz<="" th=""><th>AT 3rd OT</th><th>≦40Ω</th></fo≦10>	AT 3 rd OT	≦40Ω
10 MHz <fo≦20 mhz<="" th=""><th>AT 3rd OT</th><th>≦30Ω</th></fo≦20>	AT 3 rd OT	≦30Ω
20 MHz <fo≦50 mhz<="" th=""><th>AT 3rd OT</th><th>≦20Ω</th></fo≦50>	AT 3 rd OT	≦20Ω
50 MHz <fo≦100 mhz<="" th=""><th>AT 5th OT</th><th>≦50Ω</th></fo≦100>	AT 5 th OT	≦50Ω
5 MHz <fo≦20 mhz<="" th=""><th>SC 3rd OT</th><th>≤100Ω</th></fo≦20>	SC 3 rd OT	≤100Ω
20 MH <fo≦40 mhz<="" th=""><th>SC 3rd OT</th><th>≦60Ω</th></fo≦40>	SC 3 rd OT	≦60Ω

ELECTRICAL SPECIFICATION

Parameter	Min.	Typical	Max.	Unit
Operating Temp. Range	-55		+105	°C
Standard Frequency	5, 10, 12.8, 16.384			MHz
Turn Point	+75°C to +105°C (mode, cut, frequency dependent, other turn points			°C
Frequency Tolerance @ Turn	±1.5	±3	±5	ppm
Level of Drive		100	500	μW
Shunt Capacitance (C0)			7.0	pF
Insulation Resistance	500MΩ @ DC100V			
Aging		±0.5 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	MODE(Cut)	R(Ω)	C0(pF)	C1(fF)	Q(Typical)	Aging(ppm/year)
10 MHz	AT 3 rd OT	<45	<2.6	$0.44 \pm 20\%$	645k	0.3
12.8 MHz	AT 3 rd OT	<45	< 2.6	0.85 ± 20%	460k	0.5
16.384 MHz	AT 3 rd OT	<30	<3.8	1.60 ± 20%	420k	0.5
5 MHz	SC 3 rd OT	<110	<3.0	0.18 ± 20%	2,200k	0.01
10 MHz	SC 3 rd OT	<70	<3.2	0.19 ± 20%	1,200k	0.03
12.8 MHz	SC 3 rd OT	<70	<4.2	0.26 ± 20%	930k	0.05
16.384 MHz	SC 3 rd OT	<75	<4.5	0.20 ± 20%	780k	0.06



