

Data sheet

AT38 AT26

KHz Through Hole Cylinder type Quartz Crystal

FEATURES

- High reliability and good stability
- Outstanding shock resistance, vibration resistance
- Cylindric metal package vacuum sealed
- Excellent aging characteristics
- Applications: Consumer electronics, Microprocessor clocks...



Parameter	min.	typ.	max.	Unit	Condition
Frequency range					
Model AT38	30.0		200.0	KHz	
Model AT26	30.0		200.0	KHz	
Model AT14		32.768		KHz	
Vibration mode	XY-cut				
Frequency stability					
Initial tolerance @25°C		±20		ppm	
Operating temperature range	-20		+85	°C	
Turnover temperature	25°C ±5 °C				
Parabolic curvature constant	-0.045x10 ⁻⁶ /°C ² max.				
Equivalent Series Resistance (ESR)	See table 1				
Load Capacitance (CL)	Standard: 12.5pF (see options)				
Shunt Capacitance (Co)	2.0		5.0	pF	
Drive Level			1	µW	
Aging		±5		ppm	At 25°C, first year
Insulation Resistance	500			MΩ	@ 100Vdc
Enclosure (see drawing) (LxWxH)					
Model AT38	Dia. 3.1 x 8.2			mm	
Model AT26	Dia. 2.1 x 6.2			mm	
Model AT14	Dia. 1.4 x 5.3			mm	
Packing	Bulk in bag				

Ordering Code:

Freq. Tolerance @ 25°C	Load Capacitance	Frequency in MHz
10 = ± 10ppm	12.5 = 12.5pF	Specify the
20 = ± 20ppm	10 = 10pF	frequency in KHz
30 = ± 30ppm	9 = 9pF	
	7 = 7pF	
	6 = 6pF	

Standard specifications:

- ± 20ppm
- 12.5pF

Example: AT38-20-12.5-32.768

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Outline Dimensions:

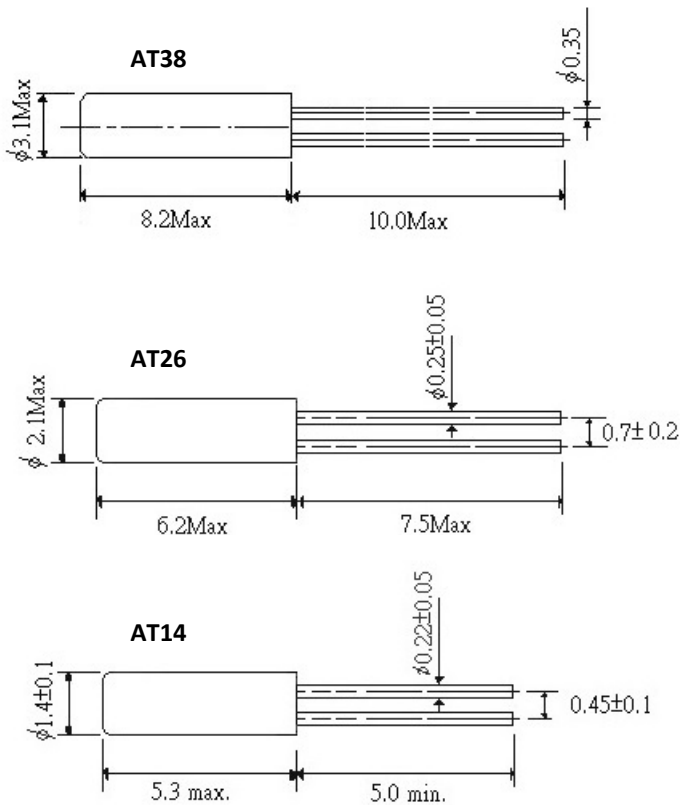


Table 1 : Standard ESR

Type	Frequency	ESR
AT38	32.768KHz	35K Ω max.
AT26	32.768KHz	50K Ω max.
AT14	32.768KHz	60K Ω max.

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability	2-20	5.6.3	Test Ta Method 1
Resistance to soldering heat	2-58		Test Td ₁ Method 2 Test Td ₂ Method 2
Shock*	2-27	5.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Vibration random *	2-64	5.6.7.3	Test Fdb
Endurance tests			
- ageing		5.7.1	30 days @ 85°C, OCXO @25°C
- extended aging		5.7.2	1000h, 2000h, 8000h @85°C

Rev. 2 dated 01-02-2013