

# Quartz

Thru Hole

ADX Series



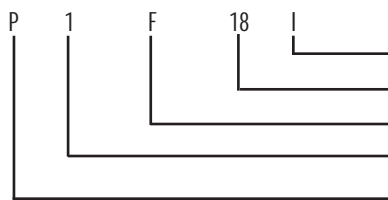
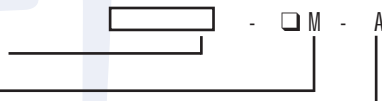
Package Type	ADXUM1 (UM-1) ADX49 (HC49/U)	pg19 pg19	ADXUM5 (UM-5) ADX49S (HC49/S)	pg19 pg20				
Frequency	MHz	M	KHz	K				
Frequency Tolerance @ 25°C	±100ppm ±50ppm ±45ppm	A B C	±40ppm ±35ppm ±30ppm	D E F	±25ppm ±20ppm ±15ppm	G H I	±10ppm ±5ppm	J K
Frequency Stability Over Temperature	±100 ppm ±50 ppm ±45 ppm	P Q R	±40 ppm ±35 ppm ±30 ppm	S T U	±25 ppm ±20 ppm ±15 ppm	V W X	±10 ppm ±5 ppm	Y Z
Operating Temperature Range	0°C to +70°C -10°C to +60°C	1 2	-20°C to +70°C -40°C to +75°C	3 4	-40°C to +85°C -40°C to +90°C	5 6	0°C to +55°C -40°C to +125°C	7 8
Operating Mode	Fundamental 3rd Overtone	F 3	5th Overtone 7th Overtone	5 7	9th Overtone	9		
Load Capacitance	6 pF 6 10 pF 10 12 pF 12	18 pF 18 20 pF 20 22 pF 22		30 pF 30 32 pF 32 50 pF 50		Series S		
Options	Third Lead	L	Insulator Tab	I	Tape & Reel	T	Vinyl Sleeving	V

## EXAMPLE

PACKAGE TYPE

FREQUENCY

FREQUENCY TOLERANCE @ 25°C



OPTIONS

LOAD CAPACITANCE

OPERATING MODE

OPERATING TEMPERATURE RANGE

FREQUENCY STABILITY OVER TEMPERATURE

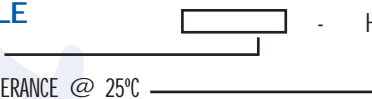
Cylindrical

Package Type	ADX26T	pg21	ADX38T	pg22	ADX310	pg23
Frequency	MHz	M	KHz	K		
Frequency Tolerance @ 25°C	±100ppm ±50ppm ±45ppm ±40ppm	A B C D	±35ppm ±30ppm ±25ppm ±20ppm	E F G H	±15ppm ±10ppm ±5ppm	I J K
Load Capacitance	6 pF	6	7 pF	7	12.5 pF	12.5
Options	Bulk	Blank	Insulator Tab	I	Tape & Reel	T

## EXAMPLE

PACKAGE TYPE

FREQUENCY TOLERANCE @ 25°C



FREQUENCY

OPTIONS

LOAD CAPACITANCE

# Quartz

Thru Hole

ADX309 and ADX310 Series

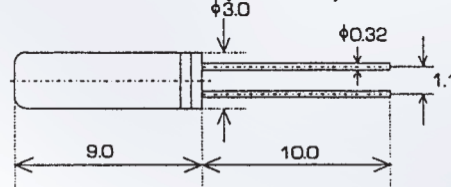
## ADX309 & ADX310



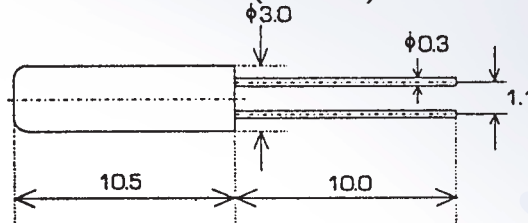
### FEATURES

- The units are high performance, miniature crystal units manufactured with ultrahigh-precision processing technology.
- High stability has been gained through vacuum sealing. Outstanding vibration resistance, shock resistance and environment characteristics.
- Applications: AV equipment, communication equipment and measuring instruments.

ADX309 (unit: mm)



ADX310 (Unit: mm)



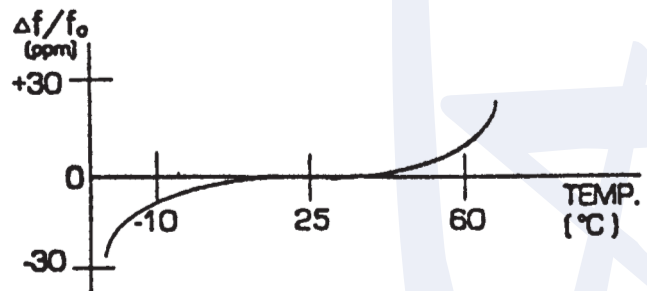
### STANDARD SPECIFICATIONS

Item		ADX310	ADX309	Conditions
Frequency Range	F	3.500 MHz ~ 3.900 MHz	4.000 MHz ~ 30.000 MHz	Fundamental
Frequency Tolerance				
25°C	$\Delta f/F$	$\pm 30$ ppm or $\pm 50$ ppm	$\pm 30$ ppm or $\pm 50$ ppm	Reference Temperature
-10°C ~ +60°C		$\pm 30$ ppm or $\pm 10$ ppm	$\pm 30$ ppm or $\pm 10$ ppm	Adjustment Tolerance
Freq. vs. Temperature Characteristics		See Drawing	See Drawing	
Operating Temperature Range	To	-10°C ~ +60°C	-10°C ~ +60°C	
Storage Temperature Range		-40°C ~ +85°C	-40°C ~ +85°C	
Equivalent Series Resistance	Rs	See Drawing	See Drawing	
Load Capacitance	CL	Please Specify	Please Specify	
Shunt Capacitance	Co	5 pF max.	5 pF max.	
Drive Level	P	200 $\mu$ W	50 $\mu$ W (under 10 MHz) 500 $\mu$ W (10 MHz and higher) 50 $\mu$ W (10 MHz) 500 $\mu$ W (10 MHz)	
Insulation Resistance	IR	500 M $\Omega$ min.	500 M $\Omega$ min.	DC 100V $\pm 15$ V
Aging (for first year)	$\Delta f/F$	$\pm 5$ ppm max.	$\pm 5$ ppm max.	T = 25°C $\pm 3$ °C
Sealing		$1 \times 10^{-7}$ mber-l/sec. max.	$1 \times 10^{-7}$ mber-l/sec. max.	
Shock Resistance	$\Delta f/F$	$\pm 5$ ppm max Drop Test of 3 times on a Hard Board from 75 cm Height.	$\pm 5$ ppm max.	Conditions will vary depending on the freq.

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

Frequency (MHz)	ADX310	ADX309
3.5 ~ 4.0	200	
4.01 ~ 8.0		150 $\Omega$
6.0 ~ 10.0		100 $\Omega$
10.0		50 $\Omega$
16		50 $\Omega$
20		50 $\Omega$
28		50 $\Omega$

### FREQUENCY vs. TEMPERATURE CHARACTERISTICS



SEE PAGE 18 FOR PART NUMBERING GUIDE