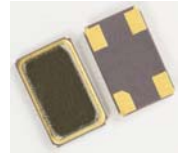




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AE 232 Series Ceramic Surface Mount Device Miniature Microprocessor Crystal

Features:

Frequency Range: 8.000 MHz to 150.000 MHz
Seam Weld Package, Compact and Thin
Exhibits excellent technical performance in the aspects of frequency stability, aging, precision and reliability.

Applications:

AE232 ceramic miniature crystal is in communication equipment such as pagers, cellular telephones, computers, modems and Industrial wide temperature applications.

AE Product	Oscillator Mode		Calibration Tolerance		Temperature Range		Stability Tolerance		Load		Frequency					
	Code	Value	Code	Value	Code	Value	Code	Value	Code	Value	Code	Value				
232 Series	A	Fundamental	1	± 10ppm	5525	-55 to +125	6	± 100ppm	18	18pf	K	KHz				
			2	± 20ppm			5	± 50ppm					20	20pf		
			B	± 25ppm			3	± 30ppm					30	30pf		
	B	3 rd Overtone	3	± 30ppm	3060	-30 to +60	B	± 25ppm	32	32pf			M	MHz		
			5	± 50ppm			2	± 20ppm							SE	Series
			6	± 100ppm			1	± 10ppm								
			C	Custom			0050	0 to +50							C	Custom

Part Number Ordering Guide (Example: A232-A5-2070-5-18-25M000)

Standard Parameter	Symbol	Minimum	Typical	Maximum	Units
Shunt Capacitance	Co			7.0	pF
Drive Level	DL		100	500	uW
Aging / 1 st yr. @+25°C	FAGE	-5.0		+5.0	ppm
Storage Temperature	TSTO	-55		+125	°C
Insulation Resistance	IR	500			MOhms (Ω)

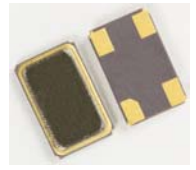
Crystal Frequency	Equivalent Series Resistance (ESR)
8.000 MHz to 12.000 MHz (Fund.)	60
12.001 MHz to 20.000 MHz (Fund.)	50
20.001 MHz to 35.000 MHz (Fund.)	40
35.001 MHz to 48.000 MHz (3 rd O.T.)	100
48.001 MHz to 150.000 MHz (3 rd O.T.)	80

Ohms (Ω)

Environmental Specifications	
Mechanical Shock	MIL-STD-202, Method 213, Condition J
Vibration	MIL-STD-883, Method 2007, Condition A
Humidity	MIL-STD-202, Method 103, Condition B
Gross Leak	MIL-STD-883, Method 1014, Condition C
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Moisture Sensitivity Level	J-STD-020, MSL1



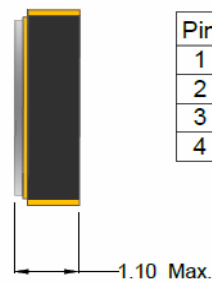
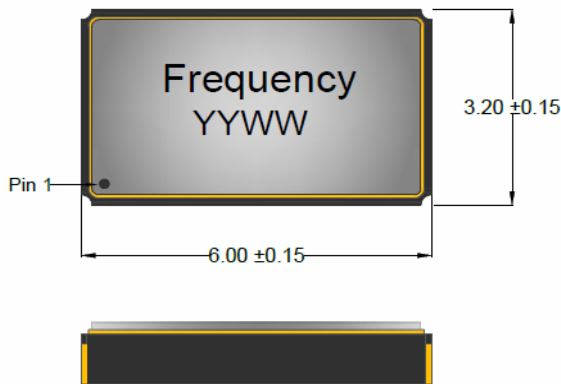
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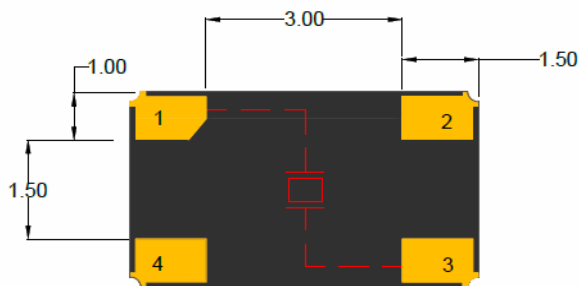
AE 232 Series Ceramic Surface Mount Device Miniature Microprocessor Crystal

**Mechanical Package Drawing: All Dimension are in millimeters (mm):
Terminal Plating Thickness: Gold (0.3 to 1.0um) over Nickel (1.27 to 8.89um)**

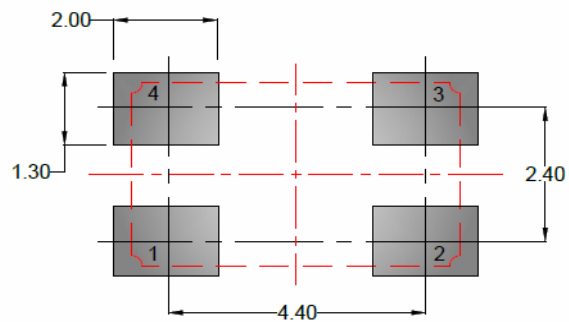
Top View:



Pin	Connection
1	Crystal
2	Ground
3	Crystal
4	Ground

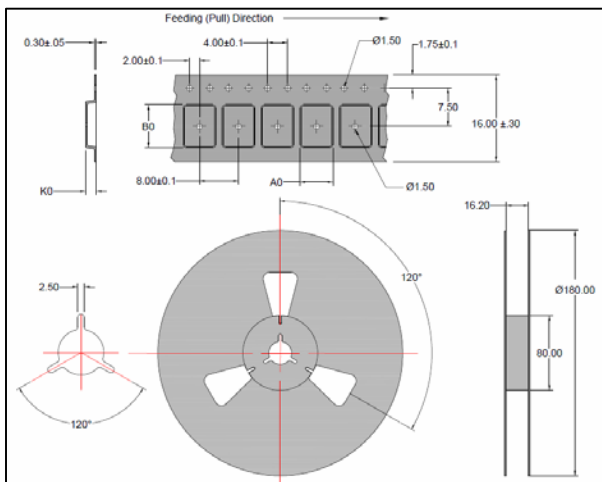


Recommended Land Pattern



Bottom View:

Tape and Reel Specifications:



Solder Reflow Profile:

