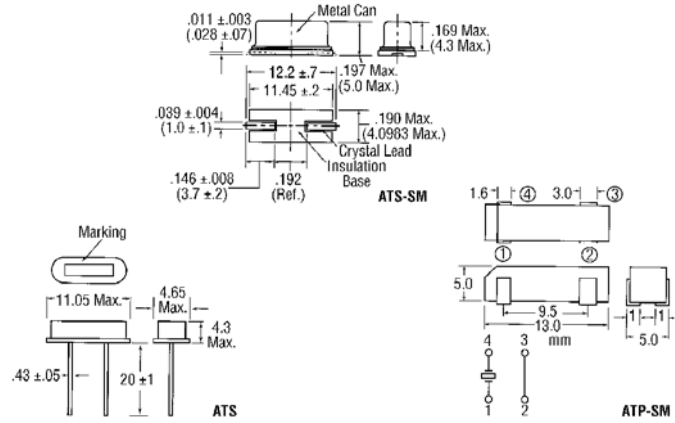


Visit CTS's at [www.ctscorp.com](http://www.ctscorp.com)

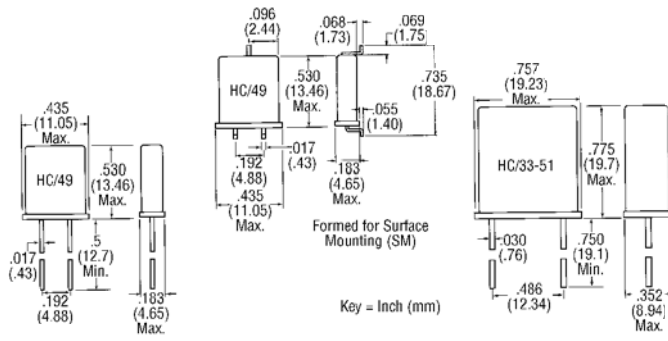
**AT Strip Crystals**



Package: HC/49U and SM metal or plastic. Frequency Range: 3.5 to 24.5 MHz. Frequency Tolerance @ 25°C: ±0.005% (50 PPM). 0°-70°C Tolerance: ±0.005%. Operating Temperature: 0°C to +70°C.

Stock No.	Mfr.'s Type	Frequency (MHz)	Load/ Series	EACH		
				1-49	50-99	100-249
745-0016	ATS040SM	4.000000	20 pF	2.16	1.49	1.03
745-0044	ATS098	9.830400	20 pF	1.95	1.34	.92
745-0062	ATS120	12.000000	Series	1.95	1.34	.92
745-0064	ATS120SM	12.000000	Series	2.16	1.49	1.03
745-0090	ATP160SM	16.000000	Series	3.33	2.30	1.58
745-0092	ATS200	20.000000	Series	2.29	1.58	1.09
745-0104	ATS245	24.576000	Series	2.47	1.70	1.17

**Microprocessor Crystals**



Features  
 ▶ Broad Range of Standard Frequencies  
 ▶ Rugged Hermetically Resistance Welded Package

Package: HC/49-HC/51. Frequency Range: 1.00 to 25.00 MHz. Frequency Tolerance @ 25°C: ±0.005% (50 PPM). 0°-70°C Tolerance: ±0.005%. Operating Temperature: 0°C to +70°C. Calibration: ±0.005 (50 PPM) @ 25°C. Stability: ±0.05% (50 PPM) of 25°C, 0°C to +70°C. Frequency Range: 1.0-3.579545 MHz. HC-49U Frequency Range: 1.8431-25.000 MHz.

Stock No.	Mfr.'s Type	Frequency (MHz)	Holder	Corr.	EACH		
					1-49	50-99	100-249
745-0109	MP010	1.000000	HC/33-51	13 pF	16.94	12.13	8.34
745-0112	MP018S	1.843200	HC/49	13 pF	4.16	2.86	1.97
745-0114	MP020	2.000000	HC/33-51	20 pF	5.81	4.08	2.81
745-0120	MP024S	2.457600	HC/49	32 pF	2.88	1.85	1.27
745-0124	MP036S	3.579545	HC/49	18 pF	1.31	.91	.62
745-0126	MP037	3.686400	HC/49	20 pF	1.23	.92	.59
745-0128	MP040	4.000000	HC/49	20 pF	1.23	.85	.59
745-0130	MP04A	4.000000	HC/49	Series	1.31	.91	.62
745-0134	MP042	4.915200	HC/49	20 pF	1.64	1.13	.78
745-0142	MP060	6.000000	HC/49	20 pF	1.64	1.13	.78
745-0144	MP061	6.144000	HC/49	20 pF	1.64	1.13	.78
745-0146	MP073	7.372800	HC/49	Series	1.64	1.13	.78
745-0148	MP080	8.000000	HC/49	Series	1.21	.84	.57
745-0150	MP080A	8.000000	HC/49	20 pF	1.64	1.13	.78
745-0154	MP100	10.000000	HC/49	Series	1.21	.84	.57
745-0162	MP111	11.059200	HC/49	Series	1.21	.84	.57
745-0164	MP120	12.000000	HC/49	Series	1.64	1.13	.78
745-0166	MP122	12.288000	HC/49	32 pF	1.21	.84	.57
745-0168	MP143	14.318180	HC/49	Series	1.21	.84	.57
745-0170	MP147	14.745600	HC/49	Series	1.21	.84	.57
745-0174	MP160	16.000000	HC/49	Series	1.64	1.13	.78
745-0176	MP184	18.432000	HC/49	Series	1.21	.84	.57
745-0180	MP200	20.000000	HC/49	Series	1.31	.90	.63

**10 MXO-45 Series Clock Oscillators**

- Features  
 ▶ CMOS/TTL Compatible  
 ▶ Available in High Frequencies  
 ▶ Tristate Option Available  
 ▶ Available in Tight Frequency Stability  
 ▶ Optimal Jitter Performance

Applications  
 Laptop computers, "green PCs", medical diagnostics equipment and other systems requiring low power led to the development of the series MXO45LV, a 3.3 V XO.

Package: 14 pin DIP. Frequency Range: 1.0 to 80 MHz. 0°-70°C Tolerance @ 25°C: ±0.01% (100 PPM). Operating Temperature: 0°C to 70°C. Duty Cycle: 45/55% ≤ 50 MHz. Rise and Fall Time: TTL 5 nS max. CMOS 8 nS max. Supply Voltage (DC): 5.0 volts +10%. Output Load: 10 TTL/50 pF ≤ 50 MHz.

Stock No.	Mfr.'s Type	Frequency (MHz)	EACH		
			1-24	25-49	50-250
745-0228	MXO45-1.0000	1.000000	7.16	4.68	3.22
745-0232	MXO45-2.0000	2.000000	7.16	4.68	3.22
745-0238	MXO45-4.0000	4.000000	5.70	3.73	2.56
745-0240	MXO45-4.9152	4.915200	5.70	3.73	2.56
745-0242	MXO45-5.0000	5.000000	5.70	3.73	2.56
745-0254	MXO45-10.0000	10.000000	5.70	3.73	2.56
745-0256	MXO45-12.0000	12.000000	5.70	3.73	2.56
745-0260	MXO45-16.0000	16.000000	4.88	3.19	2.19
745-0266	MXO45-20.0000	20.000000	2.18	1.99	1.82
745-0278	MXO45-40.0000	40.000000	5.70	3.73	2.56
745-0280	MXO45-50.0000	50.000000	5.70	3.73	2.56

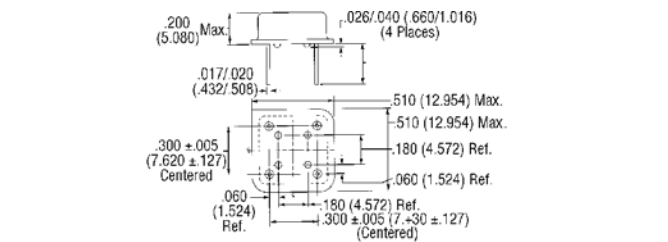
**CB3 Series Clock Oscillators**

- Features  
 ▶ Standard Miniature Surface Mount Footprint  
 ▶ Frequency Range 1.5-80 MHz  
 ▶ Frequency Stability: 100 ppm Standard; 50 ppm and 25 ppm Available  
 ▶ CMOS/TTL Compatible  
 ▶ Tri-State Output Standard  
 ▶ Tape and Reel Packaging (16 mm)  
 ▶ PCMCIA Type II and III Compatible

Package: 5 x 7 mm SMT. Frequency Range: 1.0 to 80 MHz. 0°-70°C Tolerance @ 25°C: ±0.01% (100 PPM). Operating Temperature: 0°C to 70°C. Duty Cycle: 45/55%. Rise and Fall Time: 8nS max. Supply Voltage (DC): 5.0 volts +10%. Output Load: 50 pF.

Stock No.	Mfr.'s Type	Frequency (MHz)	EACH		
			1-24	25-49	50-250
745-0196	CB3-10.0000	10.000000	3.15	2.89	2.67
745-0222	CB3-40.0000	40.000000	3.74	3.45	3.21

**MXO-45 HS Series Clock Oscillator**



- Features  
 ▶ CMOS/TTL Compatible  
 ▶ Available in High Frequencies  
 ▶ Tristate Option Available  
 ▶ Available in Tight Frequency Stability  
 ▶ Optimal Jitter Performance

Applications  
 Laptop computers, "green PCs", medical diagnostics equipment and other systems requiring low power led to the development of the series MXO45LV, a 3.3 V XO.

Package: 8 pin DIP. Frequency Range: 1.0 to 80 MHz. 0°-70°C Tolerance @ 25°C: ±0.01% (100 PPM). Operating Temperature: 0°C to 70°C. Duty Cycle: 45/55% ≤ 50 MHz. Rise and Fall Time: TTL 5 nS max. CMOS 8 nS max. Supply Voltage (DC): 5.0 volts +10%. Output Load: 10 TTL/50 pF ≤ 50 MHz.

Stock No.	Mfr.'s Type	Frequency (MHz)	EACH		
			1-24	25-49	50-250
745-0286	MXO45HS-1.0000	1.000000	7.16	4.68	3.22
745-0288	MXO45HS-1.8432	1.843200	7.16	4.68	3.22
745-0296	MXO45HS-4.0000	4.000000	5.70	3.73	2.56
745-0310	MXO45HS-8.0000	8.000000	5.70	3.73	2.56
745-0312	MXO45HS-10.0000	10.000000	5.70	3.73	2.56
745-0314	MXO45HS-12.0000	12.000000	5.70	3.73	2.56
745-0324	MXO45HS-20.0000	20.000000	5.70	3.73	2.56
745-0326	MXO45HS-24.0000	24.000000	5.70	3.73	2.56
745-0340	MXO45HS-64.0000	64.000000	7.79	5.09	3.51