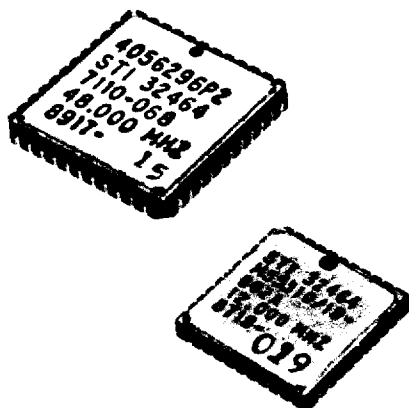


# HYBRID CRYSTAL OSCILLATOR

## SUBMINIATURE HYBRID CRYSTAL OSCILLATORS

LEADLESS CHIP CARRIER (LCC)

SERIES: 7110 TTL/ 4110 CMOS  
 7119 TTL/ 4119 CMOS  
 \* 7120 TTL/ 4120 CMOS



### FEATURES:

- High Reliability
- Minimum Size
- Surface Mountable
- Hermetically Sealed
- Any Frequency 600 Hz to 65 MHz

### OPTIONS:

- Screening per MIL-O-55310 Class B or MIL-STD-883 Class B when specified (Class S also available).
  - Alternative Configurations
  - Package Heights as low as 0.089"
  - QPL Units
- TTL: M55310/19  
 (Spectrum Series 5019)  
 (40 pin LCC 0.085" max. ht.)

### DESCRIPTION AND APPLICATIONS:

Series 7119/4119 are produced with thick film hybrid circuits and integrally mounted crystals in hermetically sealed packages. This proven design provides a mechanically rugged package for high reliability, low aging applications in military, aerospace, and Hi-Rel commercial systems. Screening to the requirements of either MIL-STD-883 or MIL-O-55310 is available.

Prices range from approximately \$40.00 to \$200.00 depending on frequency, specified temperature range, and quantity.

### SPECIFICATIONS:

**TTL:** Supply Voltage: +5 Vdc @ 10 to 50 mA depending on frequency.

**OUTPUT:** Frequency: 48 Terminal - 39 kHz to 65 MHz  
 \* 44 Terminal - 39 kHz to 65 MHz  
 40 Terminal - 500 kHz to 65 MHz

Logic 0/1: +0.5 V max./+2.4 V min.  
 10 TTL Loads

**CMOS:** Supply Voltage: +5 to +15 Vdc @ 2 to 15 mA Depending on frequency and supply voltage which must be specified.

**OUTPUT:** Frequency: 48 Terminal - 600 Hz to 15 MHz  
 \* 44 Terminal - 600 Hz to 15 MHz  
 40 Terminal - 80 kHz to 15 MHz

Logic 0/1: 0.1 VDD max./0.9 VDD min.

### PIN CONNECTIONS:

FUNCTION	7110/4110	*7120/4120	7119/4119
	48 Terminal	44 Terminal	40 Terminal
Common	PIN 44	PIN 34,40	PIN 31,37
Output	PIN 47	PIN 42	PIN 39
Supply	PIN 5	PIN 6,12	PIN 4,10

Note: Other pins may be internally connected and are not to be used as external tie points.

\*44 pin 7120 TTL/ 4120 CMOS not shown

### ACCURACY AND STABILITY OPTIONS:

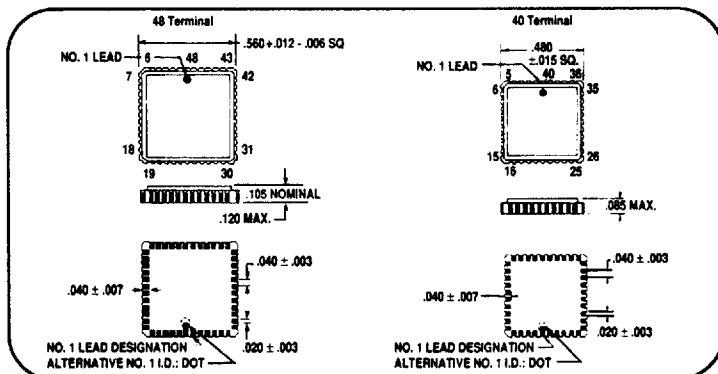
Any of the following standard temperature ranges and accuracy/stability "Mix & Match" combinations are available.

TEMP RANGES:	STANDARD STABILITIES
0 to +70°C	±0.1% (1000 ppm)
-40 to +85°C	±0.05% (500 ppm)
-55 to +105°C	±0.01% (100 ppm)
-55 to +125°C	±0.005% (50 ppm)

Other stabilities and temperature ranges are available for special applications.

### SPECIAL MODEL NUMBER DESIGNATION:

For specific applications a three digit dash number (suffix) is added to the Series number to provide a complete model number designation. This is assigned for convenience in ordering and is maintained as a unique cross reference designation to a specific customer part or specification number.



Specifications subject to change without notice.

