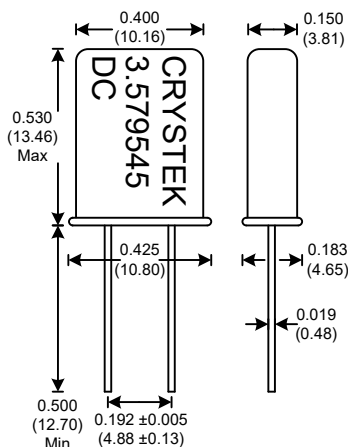




**CRYSTEK**  
CRYSTALS  
A DIVISION OF CRYSTEK CORPORATION



## CYxx Model Leaded HC49 Crystal



| Resistance at series resonance |         |
|--------------------------------|---------|
| Freq. (MHz)                    | Max ESR |
| 2.4576 - 4.0                   | 175     |
| 4.1 - 4.9                      | 100     |
| 5.0 - 5.9                      | 50      |
| 6.0 - 11.9                     | 40      |
| 12.0 - 22.9                    | 30      |
| 30.0 - 50.0                    | 40      |
| 50.1 - 100.0                   | 90      |
| 100.1 - 150.0                  | 120     |

Table 1



| Part number | Freq. (MHz) | CL              | Max ESR   |
|-------------|-------------|-----------------|-----------|
| CY2BM       | 2.457600    | 32pF            | 320       |
| CY3DM       | 3.579545    | 18pF            | 175       |
| CY3J        | 3.686400    | series          | 175       |
| CY3JM       | 3.686400    | 18pF            | 175       |
| CY3JN       | 3.686400    | 20pF            | 175       |
| CY3A        | 4.000       | series          | 100       |
| CY3AP       | 4.000       | 20pF            | 100       |
| CY4F        | 4.096       | 20pF            | 100       |
| CY4E        | 4.194304    | 12pF            | 75        |
| CY4D        | 4.915200    | series          | 75        |
| CY7A        | 5.000       | series          | 50        |
| CY7AP       | 5.000       | 20pF            | 50        |
| CY5B        | 5.068800    | series          | 50        |
| CY6B        | 6.000       | series          | 40        |
| CY6BP       | 6.000       | 20pF            | 40        |
| CY6C        | 6.144       | 30pF            | 40        |
| CY6CP       | 6.144       | 20pF            | 40        |
| CY6G        | 6.400       | 20pF            | 40        |
| CY7B        | 7.372800    | series          | 30        |
| CY7BP       | 7.372800    | 20pF            | 30        |
| CY8G        | 8.000       | series          | 30        |
| CY8GP       | 8.000       | 20pF            | 30        |
| CY8J        | 8.192       | series          | 30        |
| CY8JP       | 8.192       | 20pF            | 30        |
| CY9B        | 9.830400    | series          | 30        |
| CY12A       | 10.000      | series          | 30        |
| CY11B       | 11.059200   | series          | 30        |
| CY11BP      | 11.059200   | 20pF            | 30        |
| CY12B       | 12.000      | series          | 30        |
| CY12BP      | 12.000      | 20pF            | 30        |
| CY14A       | 14.318180   | series          | 30        |
| CY14AC      | 14.318180   | 18pF            | 30        |
| CY14AP      | 14.318180   | 20pF            | 30        |
| CY14B       | 14.745600   | series          | 30        |
| CY14BP      | 14.745600   | 20pF            | 30        |
| CY15A       | 15.000      | series          | 30        |
| CY16B       | 16.000      | series          | 30        |
| CY16BP      | 16.000      | 20pF            | 30        |
| CY19A       | 18.000      | series          | 30        |
| CY19B       | 18.432      | series          | 30        |
| CY19BP      | 18.432      | 20pF            | 30        |
| CY20A       | 19.660800   | series          | 30        |
| CY20AP      | 19.660800   | 20pF            | 30        |
| CY22A       | 20.000      | series          | 30        |
| CY22AP      | 20.000      | 20pF            | 30        |
| CY22B       | 22.118400   | series          | 30        |
| CY22BP      | 22.118400   | 20pF            | 30        |
| CY24A       | 24.000      | series          | 40        |
| CY24AP      | 24.000      | 20pF            | 40        |
| CY25A       | 25.000      | series          | 40        |
| CY27A       | 27.000      | 3 <sup>rd</sup> | series 40 |
| CY30B       | 32.000      | 3 <sup>rd</sup> | series 40 |
| CY36A       | 36.000      | 3 <sup>rd</sup> | series 40 |
| CY48A       | 48.000      | 3 <sup>rd</sup> | series 40 |
| CY100A      | 100.000     | 3 <sup>rd</sup> | series 90 |

Frequency Range: 2.457600 MHz to 40 MHz (fund)  
40 MHz to 100 MHz (3<sup>rd</sup> O/T)  
100 MHz to 150 MHz (5<sup>th</sup> O/T)

Calibration Tolerance: ±50ppm (Standard p/n)  
(Option) ±10ppm to ±100ppm

Frequency Stability: ±100ppm (Standard p/n)  
(Option) ±15ppm to ±100ppm

Operating Temp. range: 0 to 70°C (Standard p/n)  
(Option) -20 to 70°C  
(Option) -40°C to 85°C

Storage Temp. range: -45°C to 90°C  
Shunt Capacitance: 7.0pF Max

Drive level: 100uW Typical  
ESR: See table 1

Aging: <3ppm 1<sup>st</sup> year Max

Insulation Resistance: 500 Megaohms Min at 100Vdc

Optional spacer available

### Build Your Own P/N

CY X X X X X - Freq

#### Frequency Tolerance at 25°C

- ±10 ppm
- ±15 ppm
- ±20 ppm
- ±25 ppm
- ±30 ppm
- ±50 ppm
- ±100 ppm

#### Frequency Stability over Temp Range

|                         |                          |
|-------------------------|--------------------------|
| B ±15 ppm (0 to 70°C)   | J ±30ppm (-20 to 70°C)   |
| C ±20 ppm (0 to 70°C)   | K ±50 ppm (-20 to 70°C)  |
| D ±25 ppm (0 to 70°C)   | L ±100 ppm (-20 to 70°C) |
| E ±30 ppm (0 to 70°C)   | M ±20 ppm (-40 to 85°C)  |
| F ±50 ppm (0 to 70°C)   | N ±25 ppm (-40 to 85°C)  |
| G ±100 ppm (0 to 70°C)  | O ±30 ppm (-40 to 85°C)  |
| H ±15 ppm (-20 to 70°C) | P ±50 ppm (-40 to 85°C)  |
| I ±20 ppm (-20 to 70°C) | Q ±100 ppm (-40 to 85°C) |

#### Load Capacitance

- Series
- 14 pF
- 16 pF
- 18 pF
- 20 pF
- 22 pF
- 25 pF
- 32 pF

#### Options

- S Spacer

#### Example:

CY4F51S-20.000 = ±25ppm at 25°C, ±50ppm 0 to 70°C, 20pF Load Cap, Fundamental, with Spacer, 20.000 MHz

#### Mode

- Fundamental 1.8432-40 MHz
- 3<sup>rd</sup> Overtone 40-100 MHz
- 5<sup>th</sup> Overtone 100-150 MHz

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TD-021008 Rev. M

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