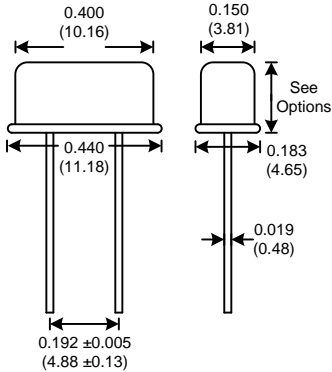




CYSxx Model Low Profile HC49S Leaded Crystal



Dimensions inches (mm)
All dimensions are maximum unless otherwise specified

| Resistance at series resonance | |
|--------------------------------|---------|
| Freq. (MHz) | Max ESR |
| 3.579545 - 4.0 | 150 |
| 4.1 - 4.9 | 120 |
| 5.0 - 5.9 | 100 |
| 6.0 - 11.9 | 90 |
| 12.0 - 14.9 | 70 |
| 15.0 - 30.0 | 50 |
| 30.1 - 86.0 | 100 |

Table 1



| Part number | Freq. (MHz) | CL | Max ESR |
|-------------|-------------|--------|---------|
| CY3DMS | 3.579545 | 18pF | 150 |
| CY3JS | 3.686400 | series | 150 |
| CY3JMS | 3.686400 | 18pF | 150 |
| CY3JNS | 3.686400 | 20pF | 150 |
| CY3AS | 4.000 | series | 150 |
| CY3APS | 4.000 | 20pF | 150 |
| CY4ES | 4.194304 | 12pF | 120 |
| CY4DS | 4.915200 | series | 120 |
| CY7AS | 5.000 | series | 100 |
| CY7APS | 5.000 | 20pF | 100 |
| CY5BS | 5.0688 | series | 100 |
| CY6BS | 6.000 | series | 90 |
| CY6BPS | 6.000 | 20pF | 90 |
| CY8GS | 8.000 | series | 90 |
| CY8GPS | 8.000 | 20pF | 90 |
| CY9BS | 9.830400 | series | 90 |
| CY12AS | 10.000 | series | 90 |
| CY11BS | 11.059200 | series | 90 |
| CY11BPS | 11.059200 | 20pF | 90 |
| CY12BS | 12.000 | series | 70 |
| CY12BPS | 12.000 | 20pF | 70 |
| CY14AS | 14.318180 | series | 70 |
| CY14ACS | 14.318180 | 18pF | 70 |
| CY14APS | 14.318180 | 20pF | 70 |
| CY14BS | 14.745600 | series | 70 |
| CY14BPS | 14.745600 | 20pF | 70 |
| CY15AS | 15.000 | series | 50 |
| CY16BS | 16.000 | series | 50 |
| CY16BPS | 16.000 | 20pF | 50 |
| CY19AS | 18.000 | series | 50 |
| CY19BS | 18.432 | series | 50 |
| CY19BPS | 18.432 | 20pF | 50 |
| CY20AS | 19.660800 | series | 50 |
| CY20APS | 19.660800 | 20pF | 50 |
| CY22AS | 20.000 | series | 50 |
| CY22APS | 20.000 | 20pF | 50 |
| CY24AS | 24.000 | series | 50 |
| CY24APS | 24.000 | 20pF | 50 |
| CY25AS | 25.000 | series | 50 |

Frequency Range: 3.579545 MHz to 40 MHz (fund)
27 MHz to 86 MHz (3rd 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 1st year Max
Insulation Resistance: 500 Megaohms Min at 100Vdc

****Custom Designs Available****

Build Your Own P/N

CYS X X X X X - Freq

| Frequency Tolerance at 25°C | |
|-----------------------------|----------|
| 1 | ±10 ppm |
| 2 | ±15 ppm |
| 3 | ±20 ppm |
| 4 | ±25 ppm |
| 5 | ±30 ppm |
| 6 | ±50 ppm |
| 7 | ±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 | |
|------------------|--------|
| 1 | Series |
| 2 | 14 pF |
| 3 | 16 pF |
| 4 | 18 pF |
| 5 | 20 pF |
| 6 | 22 pF |
| 7 | 25 pF |
| 8 | 32 pF |

| Options | |
|------------------|-----------------|
| Can Height (Max) | |
| A | 2.5mm |
| AS | 2.5mm w/ spacer |
| B | 4.0mm |
| BS | 4.0mm w/ spacer |
| C | 5.0mm |
| CS | 5.0mm w/ spacer |

Example:

CYS4F51CS-20.000 = ±25ppm at 25°C, ±50ppm 0 to 70°C, 20pF Load Cap, Fundamental, 5.0mm with Spacer, 20.000 MHz

| Mode | |
|------|-----------------------------|
| 1 | Fundamental 3.579545-40 MHz |
| 3 | 3rd Overtone 27-86 MHz |

Specifications subject to change without notice.

TD-021005 Rev. F