

**CYSDxx Model**  
Surface Mount HC49S SMD Crystal



**Quartz Crystal**



**Frequency Range:** 3.18MHz to 40MHz (fund)  
27MHz to 86MHz (3rd O/T)

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

**Frequency Stability:** ±100ppm (Standard p/n)  
(Option) ±10ppm to ±100ppm

**Temperature Range:** 0°C to 70°C (Standard p/n)  
(Option) -20°C to 70°C  
(Option) -40°C to 85°C

**Storage:** -55°C to 120°C

**Shunt Capacitance:** 7.0pF Max

**Drive Level:** 100uW Typical

**ESR:** see table 1

**Standard part numbers**

Part number	Freq. (MHz)	CL	Max ESR
CY3DMSMD	3.579545	18pF	150
CY3JSMD	3.686400	series	150
CY3JMSMD	3.686400	18pF	150
CY3JNSMD	3.686400	20pF	150
CY3ASMD	4.000	series	150
CY3APSMD	4.000	20pF	150
CY4ESMD	4.194304	12pF	120
CY4DSMD	4.915200	series	120
CY7ASMD	5.000	series	100
CY7APSMD	5.000	20pF	100
CY5BSMD	5.0688	series	100
CY6BSMD	6.000	series	90
CY6BPSMD	6.000	20pF	90
CY8GSMD	8.000	series	90
CY8GPSMD	8.000	20pF	90
CY9BSMD	9.830400	series	90
CY12ASMD	10.000	series	90
CY11BSMD	11.059200	series	90
CY11BPSMD	11.059200	20pF	90
CY12BSMD	12.000	series	70
CY12BPSMD	12.000	20pF	70
CY14ASMD	14.318180	series	70
CY14ACSMD	14.318180	18pF	70
CY14APSMD	14.318180	20pF	70
CY14BSMD	14.745600	series	70
CY15ASMD	15.000	series	50
CY16BSMD	16.000	series	50
CY16BPSMD	16.000	20pF	50
CY19ASMD	18.000	series	50
CY19BSMD	18.432	series	50
CY19BPSMD	18.432	20pF	50
CY20ASMD	19.660800	series	50
CY20APSMD	19.660800	20pF	50
CY22ASMD	20.000	series	50
CY22APSMD	20.000	20pF	50
CY24ASMD	24.000	series	50
CY24APSMD	24.000	20pF	50
CY25ASMD	25.000	series	50

**\*\*Custom Designs Available**

**Aging:** <3ppm 1st/yr Max

0.405 (10.30)  
0.150 (3.81)  
0.532 (13.50)  
0.472 (12.00)  
0.040 (1.02)  
0.185 (4.70)  
0.150 (3.81)

See Options

Freq. (MHz)	Max ESR
3.18 - 3.4	190
3.5 - 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

Dimensions inches (mm)  
All dimensions are Max unless otherwise specified.

**Build Your Own P/N** CYSD 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	
A ±10 ppm (0 to 70°C)	J ±30ppm (-20 to 70°C)
B ±15 ppm (0 to 70°C)	K ±50 ppm (-20 to 70°C)
C ±20 ppm (0 to 70°C)	L ±100 ppm (-20 to 70°C)
D ±25 ppm (0 to 70°C)	M ±20 ppm (-40 to 85°C)
E ±30 ppm (0 to 70°C)	N ±25 ppm (-40 to 85°C)
F ±50 ppm (0 to 70°C)	O ±30 ppm (-40 to 85°C)
G ±100 ppm (0 to 70°C)	P ±50 ppm (-40 to 85°C)
H ±15 ppm (-20 to 70°C)	Q ±100 ppm (-40 to 85°C)
I ±20 ppm (-20 to 70°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
A 3.0mm
B 4.0mm
C 5.0mm

**Example:**

CYSD4F51C-20.000 = ±25ppm at 25°C, ±50ppm 0 to 70°C, 20pF Load Cap, Fundamental, 5.0mm, 20.000MHz

Mode
1 Fundamental 3.18-40MHz
3 3rd Overtone 27-86 MHz

Specifications subject to change without notice.

**TD-021006 Rev. C**

