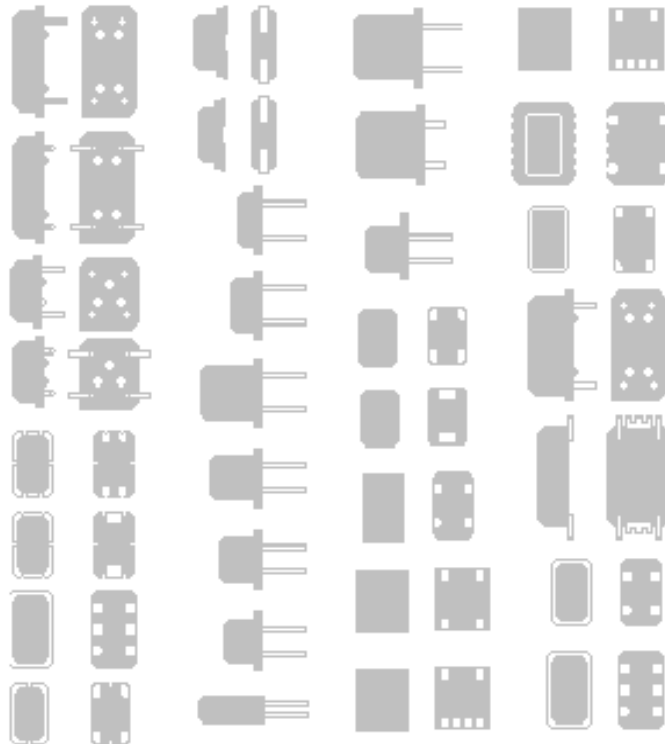


# Standard Crystal

## Quartz Crystal Products


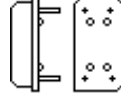
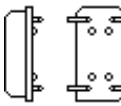
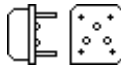
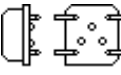
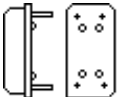
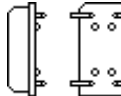
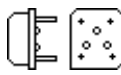
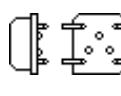


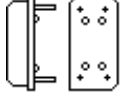
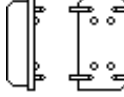

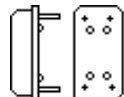
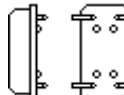
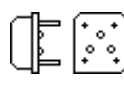
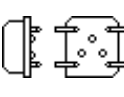
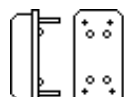
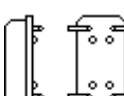
### Standard Crystal Corporation

9940 E. Baldwin Place, El Monte, CA 91731

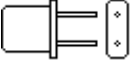
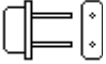
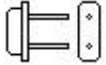






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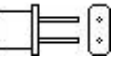
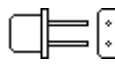
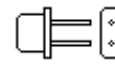
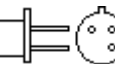


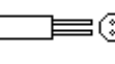
[www.standardcrystalcorp.com](http://www.standardcrystalcorp.com), E-Mail: [stdxtl@pacbell.net](mailto:stdxtl@pacbell.net)

<b>HCMOS</b>  page O-1	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Pin #1 & Symmetry	Frequency
	5 x 7.5 x 1.6 Max. 0.197 x 0.29 x 0.07	HCMOS /TTL	5x7mm SMD	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>CH</b>	<b>5</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>HCMOS</b>  page O-2	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	HCMOS /TTL	Full Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>CH</b>	<b>1</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>HCMOS</b>  page O-2	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	HCMOS /TTL	Full Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>CH</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>HCMOS</b>  page O-3	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	13.2 x 13.4 x 5.08 0.52 x 0.52 x 0.20	HCMOS /TTL	Half Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>CH</b>	<b>2</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>HCMOS</b>  page O-3	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	13.2 x 13.4 x 5.08 0.52 x 0.52 x 0.20	HCMOS /TTL	Half Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>CH</b>	<b>4</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>TTL</b>  page O-4	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	TTL	Full Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>T</b>	<b>1</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>TTL</b>  page O-4	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	TTL	Full Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>T</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>TTL</b>  page O-5	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	13.2 x 13.4 x 5.08 0.52 x 0.52 x 0.20	TTL	Half Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>T</b>	<b>2</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>TTL</b>  page O-5	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	13.2 x 13.4 x 5.08 0.52 x 0.52 x 0.20	TTL	Half Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>T</b>	<b>4</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>

<b>FAST TTL</b>  page O-6	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	FAST TTL	Full Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>TF</b>	<b>1</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>FAST TTL</b>  page O-6	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Options	Frequency
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	FAST TTL	Full Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	<u>A</u> =Pin #1 Enable Hi <u>D</u> =45/55% Symmetry	(MHz)
	<b>Part Number</b>	<b>TF</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>AD</b>	<b>40M00000</b>
<b>VCXO</b>  page O-7	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Max. Pullability
	5.2 x 7.5 x 1.8 Max. 0.29 x 0.20 x 0.07	VCXO	5 x 7 SMD	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	<u>A</u> =±100ppm Max. <u>B</u> =±50ppm Max.
	<b>Part Number</b>	<b>V</b>	<b>5</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>A</b>
<b>VCXO</b>  page O-8	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Max. Pullability
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	VCXO	Full Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	<u>A</u> =±100ppm Max. <u>B</u> =±50ppm Max.
	<b>Part Number</b>	<b>V</b>	<b>1</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>A</b>
<b>VCXO</b>  page O-8	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Max. Pullability
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	VCXO	Full Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	<u>A</u> =±100ppm Max. <u>B</u> =±50ppm Max.
	<b>Part Number</b>	<b>V</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>A</b>
<b>VCXO</b>  page O-9	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Max. Pullability
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	VCXO	Half Size	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	<u>A</u> =±100ppm Max. <u>B</u> =±50ppm Max.
	<b>Part Number</b>	<b>V</b>	<b>2</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>A</b>
<b>VCXO</b>  page O-9	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Max. Pullability
	13.2 x 13.4 x 5.08 0.52 x 0.52 x 0.20	VCXO	Half Size GullWing	<u>1</u> = 5V <u>3</u> = 3.3V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	<u>A</u> =±100ppm Max. <u>B</u> =±50ppm Max.
	<b>Part Number</b>	<b>V</b>	<b>4</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>A</b>
<b>ECL</b>  page O-10	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Pin Configurations
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	ECL	Full Size	<u>1</u> = 5V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	please see page 10
	<b>Part Number</b>	<b>E</b>	<b>1</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>AC</b>
<b>ECL</b>  page O-10	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Tolerance	Frequency	Pin Configurations
	20.8 x 13.2 x 5.1 0.82 x 0.52 x 0.20	ECL	Full Size GullWing	<u>1</u> = 5V	<u>A</u> = 0E to 70EC <u>B</u> = -40E to 85EC	<u>0D</u> = ±100ppm <u>1D</u> = ±50ppm	(MHz)	please see page 10
	<b>Part Number</b>	<b>E</b>	<b>3</b>	<b>1</b>	<b>A</b>	<b>0D</b>	<b>40M00000</b>	<b>AC</b>

 page O-12	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Wave	Frequency	Freq. Stability
	15 x 25 x 14 0.59 x 0.98 x 0.55	DTCXO	Thru-Hole	5V	<b>A</b> = 0E to 70EC <b>B</b> = -20E to 70EC	<b>H</b> =CMOS & TTL <b>S</b> =Sine Wave	(MHz)	±1.0~±0.3ppm
	<b>Part Number</b>	<b>DTC</b>	<b>1525T</b>		<b>A</b>	<b>H</b>	<b>12M288000</b>	<b>-1.0</b>
 page O-13	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Wave	Frequency	Freq. Stability
	12.6 x 18.6 x 10 0.49 x 0.73 x 0.40	TCXO	Thru-Hole	5V	<b>A</b> = 0E to 60EC <b>B</b> = -20E to 70EC	<b>H</b> =CMOS & TTL <b>S</b> =Sine Wave	(MHz)	±10.0~±0.3ppm
	<b>Part Number</b>	<b>TC</b>	<b>1218T</b>		<b>A</b>	<b>H</b>	<b>12M288000</b>	<b>-10.0</b>
 page O-14	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Load	Frequency	Freq. Stability
	7.0 x 9.0 x 2.0 0.28 x 0.36 x 0.08	TCXO	7x9 SMD 4 pad	3V	-20E to 75EC	[10k Ohms/10pF]±10%	(MHz)	see Page O-14
	<b>Part Number</b>	<b>TC</b>	<b>79-4-</b>				<b>12M288000</b>	
 page O-15	Dimensions mm/inch	Family/ Package	Freq. Stability	Temp. Range	Output Load	Freq. Deviation	Frequency	
	7.62 x 18.3 x 4.5 0.3 x 0.72 x 0.18	TC & VCXO 14 Pin SMD 5Vdc	See Table Page O-15 (2 digit code)	See Table Page O-15 (1 letter code)	<b>C</b> = CMOS/ TTL Compatible <b>S</b> = Clipped Sinewave	<b>Blank</b> = TCXO <b>5</b> = ±5ppm <b>10</b> = ±10ppm	(Mhz)	
	<b>Part Number</b>	<b>TVCFS</b>	<b>25</b>	<b>C</b>	<b>S</b>	<b>10</b>	<b>12M28800</b>	
 page O-16	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Load	Frequency	Freq. Stability
	9.6 x 11.4 x 2.3 0.38 x 0.45 x 0.09	VTCXO	9x11 SMD 4 pad	3V	-30E to 75EC	10k Ohms/10pF	(MHz)	see Page O-16
	<b>Part Number</b>	<b>VTC</b>	<b>911-4-</b>				<b>12M288000</b>	
 page O-17	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Load	Frequency	Freq. Stability
	9.6 x 11.4 x 2.3 0.38 x 0.45 x 0.09	VTCXO	9x11 SMD 6 pad	3V	-30E to 75EC	10k Ohms/10pF	(MHz)	see Page O-17
	<b>Part Number</b>	<b>VTC</b>	<b>911-6-</b>				<b>12M288000</b>	
 page O-18	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Load	Frequency	Freq. Stability
	3.2 x 5.0 x 1.5 0.13 x 0.20 x 0.06	VTCXO	3x5 SMD 4 pad	3V	- 20E to 75EC	[10k Ohms/10pF]±10%	(MHz)	see Page O-18
	<b>Part Number</b>	<b>VTC</b>	<b>35-4-</b>				<b>12M288000</b>	
 page O-19	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Freq. Stability	Output Load	Frequency
	7.0 x 9.0 x 2.0 0.28 x 0.35 x 0.08	VTCXO	7x9 SMD 4 pad	3V	- 20E to 75EC	<b>2.5</b> = ±2.5ppm <b>5</b> = ±5ppm	[10k Ohms/10pF]±10%	(MHz)
	<b>Part Number</b>	<b>VTC</b>	<b>79-</b>			<b>5-</b>		<b>12M288000</b>
 page O-20	Dimensions mm/inch	Family	Package	Voltage	Temp. Range	Output Load	Frequency	Freq. Stability
	3.5 x 6.0 x 1.7 0.14 x 0.24 x 0.07	VTCXO	3x6 SMD 4 pad	3V	- 30E to 80EC	10pF/ 10k Ohms	(MHz)	±2.5ppm see Page O-20
	<b>Part Number</b>	<b>VTC</b>	<b>36-4-</b>				<b>12M288000</b>	

 page C-1	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	11.0 x 4.8 x 13.5 0.43 x 0.19 x 0.53	<u>AA</u> =Fund. <u>BA</u> =3rd OT <u>CA</u> =5th OT	HC49U	1.8 to 125 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>B</u> =Top Wire <u>C</u> =Gullwing
	<b>Part Number</b>	<b>AA</b>	<b>K</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
 page C-2	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	11.4 x 5.0 x 4.0 0.45 x 0.20 x 0.14	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC49 US	3.5 to 75 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>L</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
 page C-2	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	11.4 x 5.0 x 2.5 0.45 x 0.20 x 0.10	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC49 USS	3.5 to 75 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>G</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
 page C-3	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	12.5 x 4.6 x 5.0 0.49 x 0.18 x 0.19	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC49 UP	3.5 to 75 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>P</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
 page C-3	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	12.5 x 4.6 x 3.5 0.49 x 0.18 x 0.14	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC49 UPS	3.5 to 75 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>I</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
 page C-4	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	7.2 x 5.2 x 1.13 0.28 x 0.21 x 0.05	<u>AA</u> =Fund. <u>BA</u> =3rd OT	5 x 7 4 pad	10 to 85 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>S</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
 page C-4	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	7.2 x 5.2 x 1.13 0.28 x 0.21 x 0.05	<u>AA</u> =Fund. <u>BA</u> =3rd OT	5 x 7 2 pad	10 to 85 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>T</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
 page C-5	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	6.0 x 3.5 x 1.12 0.24 x 0.14 x 0.05	<u>AA</u> =Fund. <u>BA</u> =3rd OT	6 x 3.5 4 pad	16 to 85 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>U</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
 page C-5	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	6.0 x 0.35 x 1.12 0.24 x 0.14 x 0.05	<u>AA</u> =Fund. <u>BA</u> =3rd OT	6 x 3.5 2 pad	16 to 85 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>V</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>

<b>5 x 3.2 SMD</b>  page C-6	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	5.0 x 3.2 x 1.0 0.20 x 0.13 x 0.04	<u>AA</u> =Fund.	5 x 3.2 4 pad	10 to 45 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> = Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>W</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
<b>5 x 3.2 SMD</b>  page C-6	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	5.0 x 3.2 x 1.0 0.20 x 0.13 x 0.04	<u>AA</u> =Fund.	5 x 3.3 2 pad	10 to 45 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>H</u> =Tape/ R.
	<b>Part Number</b>	<b>AA</b>	<b>Y</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>H</b>
<b>UM-1 (HC80)</b>  page C-7	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	7.7 x 3.0 x 8.6 0.31 x 0.12 x 0.34	<u>AA</u> =Fund. <u>BA</u> =3rd OT	UM-1	10 to 150 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>B</u> =Top Wire
	<b>Part Number</b>	<b>AA</b>	<b>H</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>UM-5 (HC52)</b>  page C-8	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	7.7 x 3.0 x 5.8 0.31 x 0.12 x 0.23	<u>AA</u> =Fund. <u>BA</u> =3rd OT	UM-5	15 to 150 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>Q</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>UM-4</b>  Page C-9	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	7.7 x 3.0 x 4.5 0.31 x 0.12 x 0.18	<u>AA</u> =Fund. <u>BA</u> =3rd OT	UM-4	20 to 150 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>D</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>TO-5</b>  page C-10	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	$\dot{\bar{I}}$ 9.6 x $\dot{\bar{I}}$ 6.7 $\dot{\bar{I}}$ 0.378 x $\dot{\bar{I}}$ 0.265	<u>AA</u> =Fund. <u>BA</u> =3rd OT	TO-5	5 to 150 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>N</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>HC51</b>  page C-11	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	19.2 x 8.9 x 19.7 0.76 x 0.35 x 0.78	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC51	1.0 to 20.0 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard <u>B</u> =Top Wire <u>C</u> =Gullwing
	<b>Part Number</b>	<b>AA</b>	<b>M</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>HC6 (pin)</b>  page C-11	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	19.2 x 8.9 x 19.7 0.76 x 0.35 x 0.78	<u>AA</u> =Fund. <u>BA</u> =3rd OT	HC6	1.0 to 20.0 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>A</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>
<b>3 x 9 Cylindrical</b>  page C-12	Dimensions mm/inch	Mode/cut	Holder	Frequency	Tol. @ 25EC	Freq. Stability	Temp. Range	Load Cap.	Options
	$\dot{\bar{I}}$ 9.3 x $\dot{\bar{I}}$ 3.1 $\dot{\bar{I}}$ 0.37 x $\dot{\bar{I}}$ 0.12	<u>AA</u> =Fund. <u>BA</u> =3rd OT	3 x 9	3.5 to 60.0 MHz	<u>F</u> = ±30ppm <u>G</u> =±50ppm	<u>L</u> = ±50ppm <u>N</u> = ±100ppm	<u>E</u> =0E to 70EC <u>J</u> =-40E to 85EC	<u>00</u> =Series <u>20</u> =20pF	<u>A</u> =Standard
	<b>Part Number</b>	<b>AA</b>	<b>Z</b>	<b>20M00000</b>	<b>F</b>	<b>L</b>	<b>E</b>	<b>00</b>	<b>A</b>

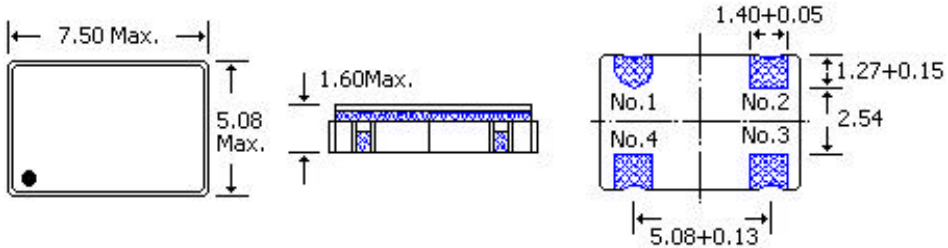
# HCMOS/TTL MINIATURE SMD

## OSCILLATOR 5x7mm SURFACE MOUNT

### SPECIFICATION

Frequency Range	1.544 MHz to 125.0 MHz	
Storage Temperature Range	-55EC to 125EC	
Operating Temperature Range	0EC to 70EC or -40EC to 85EC	
Input Voltage	5Vdc ± 0.5V	3.3Vdc ± 0.3V
Max. Input Current	5 - 80 mA	
Logic "1" / "0"	90% V <sub>dd</sub> Min. / 10% V <sub>dd</sub> Max.	
Output Symmetry	45 / 55% @ ½ V <sub>p-p</sub>	
Output Rise / Fall Time	100Sec. Max.	
Output Load	10TTL Gates/ 50pF HCMOS Max.	10LS TTL/ 15pF
Options on Pin 1	"1" = Enable, "0" = Disable N/C = No Connection	

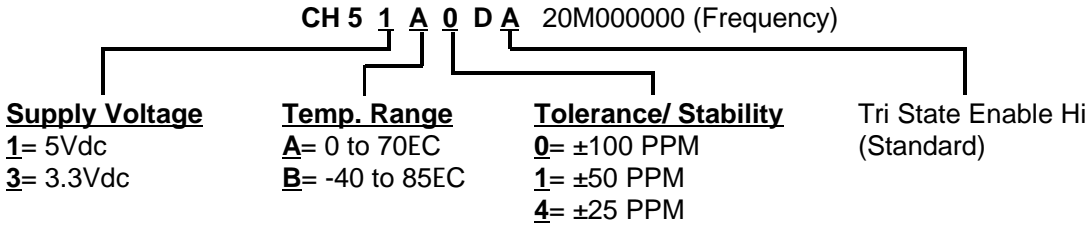
**Dimensions in mm**



**Pin Connections**    #1 Enable Hi    #2 Ground  
                                  #3 Output        #4 VDD

Note: External 0.01FF capacitor required between pins 4 and 2

**HCMOS 5x7 SMD Part Number Break Down**



**Standard Crystal Corporation** 9940 E. Baldwin Place, El Monte, Ca., 91731  
 Phone: (800) 423-4578, Fax: (626) 443-9049  
 www.standardcrystalcorp.com, E-Mail: stdxtl@pacbell.net

# HCMOS/ TTL FULL SIZE

## OSCILLATOR THRU HOLE AND GULL WING SMD

### FEATURES

- ! CMOS and TTL compatible
- ! Tri-State option available
- ! Selection of thru-hole or gull wing
- ! 14 pin dip

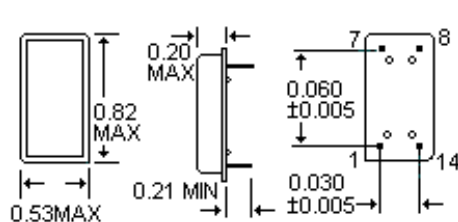
### SPECIFICATIONS

Frequency Range	1MHz to 150MHz
Storage Temperature Range	-55EC to 125EC
Operating Temperature Range	0EC to 70EC or -40EC to 85EC
Input Voltage	5V±0.5V or 3.3V 0.3V
Max. Input Current	5 - 80 mA
Logic "1" / "0"	90% V <sub>dd</sub> Min. / 10% V <sub>dd</sub> Max.
Output Symmetry	60 / 40% @ ½ V <sub>p-p</sub>
Output Rise / Fall Time	100Sec. Max.
Output Load	CMOS C = 15pF or 10TTL Gates
Options on Pin 1	"1" = Enable, "0" = Disable N/C = No Connection

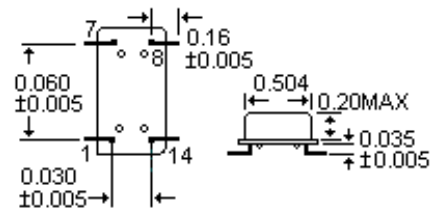
### Dimensions in inches

Full Size

Pin	Connections
1	NC or Options
7	GND(Case)
8	Output
14	+5V

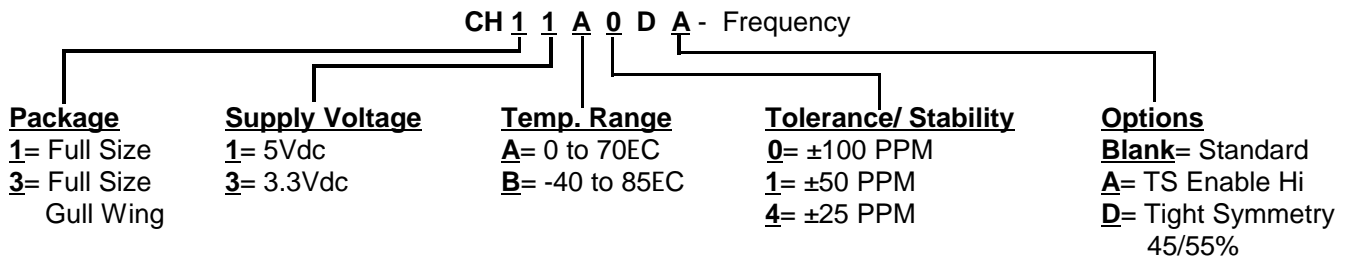


FULL SIZE



FULL SIZE GULL WING

### HCMOS Full Size Thru Hole Part Number Break Down



Standard Crystal Corporation 9940 E. Baldwin Place, El Monte, Ca., 91731

Phone: (800) 423-4578, Fax: (626) 443-9049

www.standardcrystalcorp.com, E-Mail: stdxtl@pacbell.net

