Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

CARDINAL COMPONENTS

Field Programmable Crystal Oscillator

Series CPPD

- Programmed in the field with the PG-3200 oscillator programming instrument within seconds.
- Factory Programmable
- Standard Package Options

Instrument Part Number: **CPPD C 1 L Z - A5 B6 - XX.XXXX / YY.YYYY**

CPPD	C	1	L	Z	A5	B6	XX.XXXX	YY.YYYY
SERIES	OUTPUT	PACKAGE STYLE	VOLTAGE	ADDED FEATURE	OPERATING TEMP	STABILITY	FREQUENCY	FREQUENCY
CPPD	C = CMOS T = TTL	1 = Full Size 4 = Half Size 5 = 3.2x5 Ceramic 7 = 5x7 Ceramic 8 = PLASTIC SMD	Blank = 5V L = 3.3V R = 2.7V	Blank = Cut Tape B = Bulk T = Tube Z = Tape and Reel	Blank = 0°C~+70°C A3 = -55~+125°C A5 = -20°C~+70°C A7 = -40°C~+85°C	B6 = ±100PPM BP = ±50PPM BR = ±25PPM	0.500 ~ 133.000 MHz Pin 1 Logic "0"	0.500 ~ 133.000 MHz Pin 1 Logic "1"

Specifications:

Description		Min	Typ	Max	Unit
Frequency Range: Programmable to any discrete frequency		0.500		133	MHz
Available Stability Options:		-100 -50 -25		+100 +50 +25	PPM
Programmable Supply Voltage:	(1-133 MHz) (1-100 MHz) (1-66.0 MHz)	4.5 3.0 2.5	5.0 3.3 2.7	5.5 3.6 3.0	V V V
Operating Temperature Range Options:		-55 -20 -40		+125 +70 +85	°C °C °C
Storage Temperature:		-55		+125	°C
Aging: Ta=°25C,Vdd=5V/3.3V	1st Year After 1st year			±5 ±1	PPM/Year PPM/Year

Programmable Output Level: CMOS/TTL

Operating Conditions:

Description		Min	Max	Unit
V_{DD}	Supply Voltage	2.5	5.5	V
C_{TTL}	Max capacitive load on outputs for TTL levels			
	4.5V-5.5V V_{DD}, ≤ 40 MHz		50	pF
	4.5V-5.5V V_{DD}, 40 - 133 MHz		25	pF
C_{CMOS}	Max capacitive load on outputs for CMOS levels			
	4.5V-5.5V V_{DD}, ≤ 66 MHz		50	pF
	4.5V-5.5V V_{DD}, 66 - 133 MHz		25	pF
	3.0V-3.6V V_{DD}, ≤ 40 MHz		30	pF
	3.0V-3.6V V_{DD}, 40 - 100 MHz		15	pF
	2.5-3.0V V_{DD}, ≤ 66 MHz		25	pF

Cardinal Components
1801 Broadway Street
Charlottesville, VA 22902

Telephone: (973)785-1333
Email: sales@cardinalxtal.com
Website: www.cardinalxtal.com

Output Clock Switching Characteristics:

Description	Test Conditions	Min	Typ	Max	Unit
Duty Cycle:	≤ 50 MHz, C_L = 50 pF	45	-	55	%
TTL @ 1.4V	50 - 66 MHz, C_L = 15 pF	45	-	55	%
4.5-5.5 V_{DD}	66 - 125 MHz, C_L = 25 pF	40	-	60	%
	125 - 133 MHz, C_L = 15 pF	40	-	60	%
Duty Cycle:	≤ 66 MHz, C_L ≤ 25 pF	45	-	55	%
CMOS @ V_{DD}/2	66 - 125 MHz, C_L ≤ 25 pF	40	-	60	%
4.5-5.5 V_{DD}	125 - 133 MHz, C_L ≤ 15 pF	60	-	60	%
3.0-3.6 V_{DD}	≤ 40 MHz, C_L ≤ 30 pF	45	-	55	%
	40 - 100 MHz, C_L ≤ 15 pF	40	-	60	%
Rise/Fall:	0.8V - 2.0V, 4.5 - 5.5 V_{DD}, C_L = 50 pF			1.8	ns
	0.8V - 2.0V, 4.5 - 5.5 V_{DD}, C_L = 25 pF			1.2	ns
	0.8V - 2.0V, 4.5 - 5.5 V_{DD}, C_L = 15 pF			0.9	ns
	0.2V - 0.8 * V_{DD}, 4.5 - 5.5 V_{DD}, C_L = 50 pF			3.4	ns
	0.2V - 0.8 * V_{DD}, 3.0 - 3.6 V_{DD}, C_L = 30 pF			4.0	ns
	0.2V - 0.8 * V_{DD}, 3.0 - 3.6 V_{DD}, C_L = 15 pF			2.4	ns
Start Up Time	From Power On	-	-	10	ms
RMS Period Jitter	1 - 133.00 MHz		8	11	ps
Peak to Peak*	≤ 33.000 MHz		65	99	ps
	> 33.000 MHz		65	80	ps

*** Jitter Tested at > 1,000,000 samples, exceeding JEDEC std JESD65**

Cardinal Components
1801 Broadway Street
Charlottesville, VA 22902

Telephone: (973)785-1333
Email: sales@cardinalxtal.com
Website: www.cardinalxtal.com

Electrical Characteristics:

Description	Test Conditions	Min	Typ	Max	Unit
Input Characteristics (Pin 1):					
V_{IL}, Low-Level Input Voltage	V_{DD} = 5.0 V	-	-	0.8	V
(To switch to F_0 output)	V_{DD} = 3.3 V	-	-	0.2 * V_{DD}	V
	V_{DD} = 2.7 V	-	-	0.2 * V_{DD}	V
V_{IH}, High-Level Input Voltage	V_{DD} = 5.0 V	2.0	-	-	V
(To switch to F_1 output)	V_{DD} = 3.3 V	0.7 * V_{DD}	-	-	V
	V_{DD} = 2.7 V	0.7 * V_{DD}	-	-	V
I_{IL}, Input Low Current	V_{IN} = 0 V	-	-	10	µA
I_{IH}, Input High Current	V_{IN} = V_{DD}	-	-	5	µA
Output Characteristics:					
V_{OL}, Low-Level Output Voltage	V_{DD} = 5.0 V, I_{OL} = 16mA	-	-	0.4	V
	V_{DD} = 3.3 V, I_{OL} = 8mA	-	-	0.4	V
V_{OHTTL}, High-Level Output Voltage	V_{DD} = 5.0 V, I_{OL} = -16mA	2.4	-	-	V
V_{IHCMOS}, High-Level Output Voltage	V_{DD} = 5.0 V, I_{OL} = -16mA	V_{DD}-0.4	-	-	V
	V_{DD} = 3.3 V, I_{OL} = -8mA	V_{DD}-0.4	-	-	V
	V_{DD} = 2.7 V, I_{OL} = 6mA	V_{DD}-0.4	-	-	V
Power Supply Current:	V_{DD} = 5.0 V , F_O ≤ 133 MHz	-	-	45	mA
(Unloaded)	V_{DD} = 3.3 V , F_O ≤ 100 MHz	-	-	25	mA
	V_{DD} = 2.7 V , F_O ≤ 66.0 MHz	-	-	20	mA
Standby Current:		-	10	50	µA
Input Pull-Up Resistor (Pin 1)	V_{DD} = 5.0 V, V_{IN} = 0 V	1.1	3.0	8.0	MΩ
	V_{DD} = 5.0 V, V_{IN} = 0.7 V	50	100	200	KΩ
Frequency Select Switching Time				500	µs

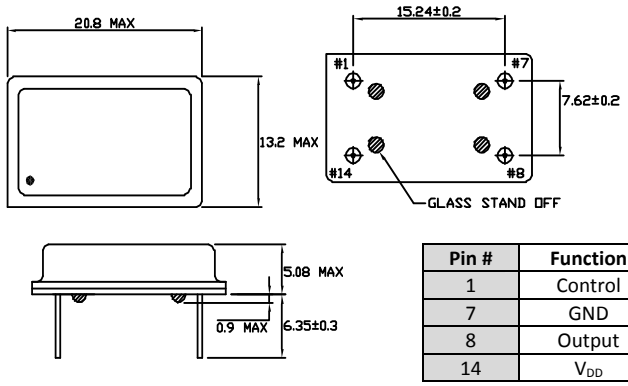
Cardinal Components
1801 Broadway Street
Charlottesville, VA 22902

Telephone: (973)785-1333
Email: sales@cardinalxtal.com
Website: www.cardinalxtal.com

Field Programmable Crystal Oscillator **Series CPPD**

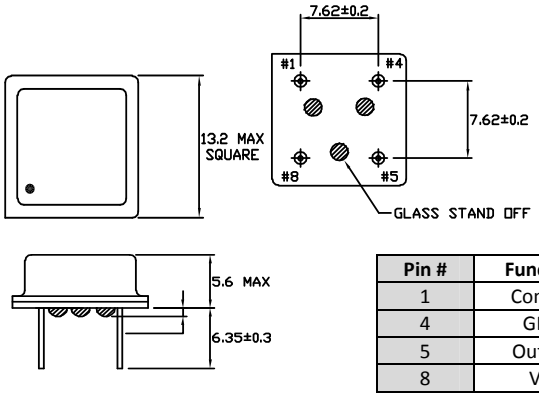
***Note: Bypass V_{DD} to GND with a 0.01µF capacitor**

Style 1 Full Size 14 Pin Dip



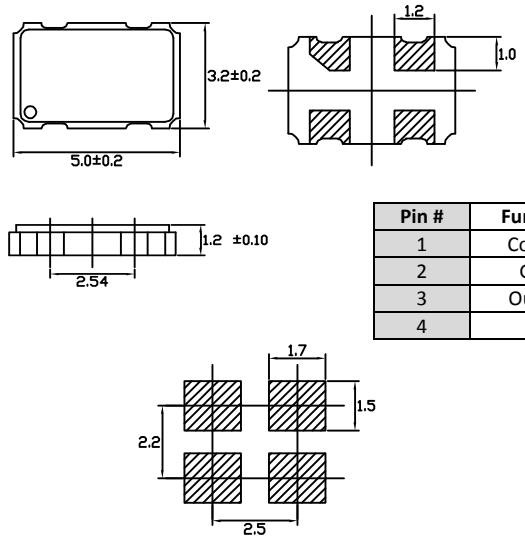
Pin #	Function
1	Control
7	GND
8	Output
14	V_{DD}

Style 4 Half Size 8 Pin Dip



Pin #	Function
1	Control
4	GND
5	Output
8	V_{DD}

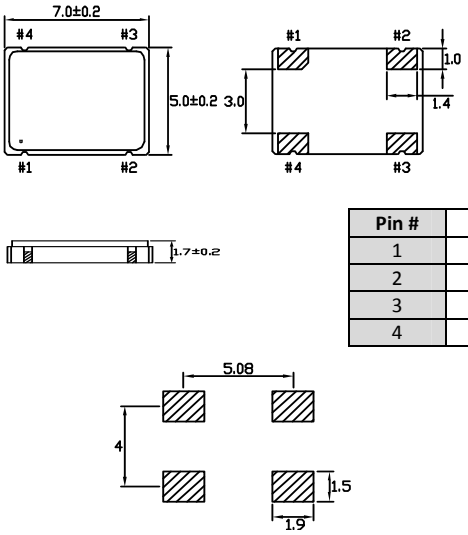
Style 5 3.2x5 Ceramic SMD



Pin #	Function
1	Control
2	GND
3	Output
4	V_{DD}

Recommended Solder Pad Layout

Style 7 5x7 Ceramic SMD



Pin #	Function
1	Control
2	GND
3	Output
4	V_{DD}

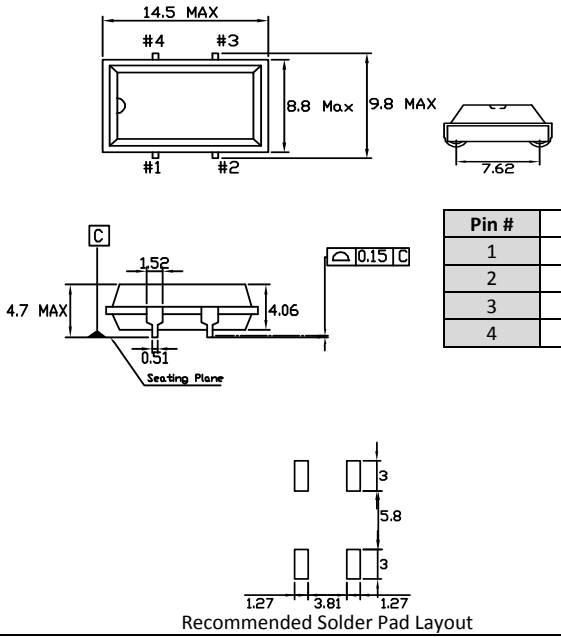
Recommended Solder Pad Layout

Cardinal Components
1801 Broadway Street
Charlottesville, VA 22902

Telephone: (973)785-1333
Email: sales@cardinalxtal.com
Website: www.cardinalxtal.com

***Note: Bypass V_{DD} to GND with a 0.01µF capacitor**

Style 8 Plastic SMD



Pin #	Function
1	Control
2	GND
3	Output
4	V_{DD}

Recommended Solder Pad Layout

Cardinal Components
1801 Broadway Street
Charlottesville, VA 22902

Telephone: (973)785-1333
Email: sales@cardinalxtal.com
Website: www.cardinalxtal.com