

HCMOS Oscillator

Spread Spectrum

CSSC

- *LVTTL Compatible*
- *Cost Effective EMI Reduction*
- *Center Spread +0.125% ± 2%*
- *Down Spread - 0.25% - - 4%*
- *Immediate Delivery*

- *Copiers*
- *LAN*
- *Printers, Scanners*
- *Industrial Automation*
- *Consumer Electronics*

Part Numbering Example: CSSC C 7 L Z - A5 B6 - XXX.XXXX TS C

CSSC	7	L	Z	A5	B6	XXX.XXXX	TS	C YYYY
SERIES	STYLE	VOLTAGE	PACKAGING	OPERATING TEMP.	STABILITY	FREQUENCY	TRI-STATE	SPREAD SPECTRUM
CSSC	5 = 5 X 3.2 7 = 5 X 7	L = 3.3 V S = 2.5 V	Blank = Bulk T = Tube Z = T & R	Blank = 0°C +70°C A5 = -20°C +70°C A7 = -40°C +85°C	B6 = ±100 ppm BP = ±50 ppm BR = ±25 ppm	1.500~200.000 MHz	TS = Tri-State PD = Power Down	C = Center Spread D = Down Spread

Specifications:

Description	Min	Typ	Max	Unit
Frequency Range: Programmable to Any Discrete Frequency	1.500		200.000	MHz
Available Stability Options:	-100 -50 -25		100 50 25	ppm ppm ppm
Supply Voltage Options: (1.5–166 MHz) (1.5–200 MHz)	2.25 3.0	2.5 3.3	2.75 3.6	V V
Operating Temperature Range Options:	0 -20 -40		+70 +70 +85	°C °C °C
Storage Temperature:	-55		+125	°C
Aging (PPM/Year) Ta=25C, Vdd=3.3V/2.5V			±5	
Output Level:	HCMOS			
Packaging:	Tape and Reel (1K per Reel) Tube			

Operating Conditions:

	Description	Min	Max	Unit
Vdd	Supply Voltage	2.25	3.6	V
Vdd	Rise Time	100		µS
HCMOS	Max Capacitive Load on outputs for CMOS levels Frequency: < 40 MHz Frequency: 40–200 MHz		30 15	pF pF



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Electrical Characteristics

Description	TEST CONDITIONS	Min	Typ	Max	Unit
Input Characteristics (Pin 1): V _{IL} , Low-Level Input Voltage TO DISABLE OUTPUT	3.0–3.6V V _{dd}			0.2V _{dd}	V
V _{IH} , High-Level Input Voltage TO ENABLE OUTPUT OR NO CONNECT	3.0–3.6V V _{dd}	0.7V _{dd}			V
I _{IL} , Input Low Current I _{IH} , Input High Current	V _{IN} = 0V V _{IN} = V _{dd}			80 10	μ A μ A
Output Characteristics: V _{OL} , Low-Level Output Voltage	3.0V–3.6V V _{dd} , 8 mA I _{OL}			0.4	V
V _{OHCMS} , High-level HCMOS Voltage	2.25V–3.6V V _{dd} , -8 mA I _{OL}	V _{dd} -0.4			V V
Power Supply Current: (unloaded)	2.25–3.6 V _{dd} , OUTPUT FREQ \leq 200 MHz			35	mA
Input Pull-Up Resistor:	2.25–3.6V V _{dd} , V _{IN} = 0.7V	50	70	90	K Ω
Tri-State Leakage Current:	3.6V V _{dd}		20		μ A
Output Enable Mode:	Output is Tri-Stated				

Output Clock Switching Characteristics

Description	TEST CONDITIONS	Min	Typ	Max	Unit
Duty Cycle: HCMOS @ V _{dd} /2	2.25 V – 3.6V V _{dd}	45		55	%
Output Clock Rise/Fall:	0.2–0.8V _{dd} , 2.25–3.6 V _{dd} , C _L = 30 0.2–0.8V _{dd} , 2.25–3.6 V _{dd} , C _L = 15			4.0 2.4	nS nS
Start Up Time:	From power on		3	10	mS

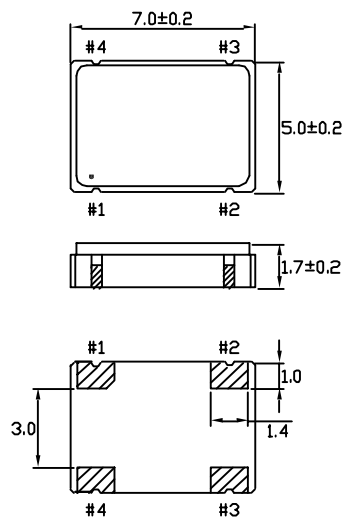


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YYYY	Center Spread	Down Spread
0125	± 0.125 %	-0.25
0250	± 0.250 %	-0.50
0375	± 0.375 %	-0.75
0500	± 0.500 %	-1.00
0625	± 0.625 %	-1.25
0750	± 0.750 %	-1.50
0875	± 0.875 %	-1.75
1000	± 1.000 %	-2.00

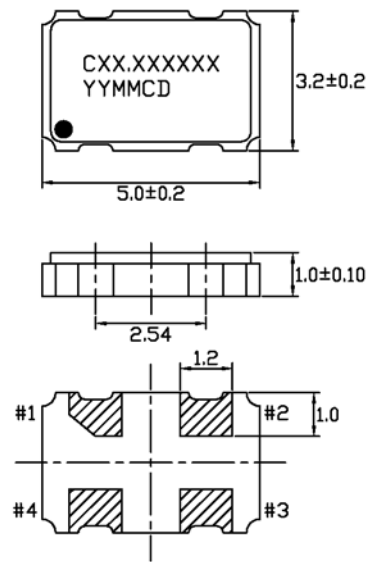
YYYY	Center Spread	Down Spread
1125	± 1.125 %	-2.25
1250	± 1.250 %	-2.50
1375	± 1.375 %	-2.75
1500	± 1.500 %	-3.00
1625	± 1.625 %	-3.25
1750	± 1.750 %	-3.50
1875	± 1.875 %	-3.75
2000	± 2.000 %	-4.00

Style 7 5x7 Ceramic SMD



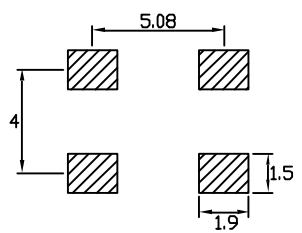
PIN FUNCTION
 1 CONTROL
 2 GND
 3 OUTPUT
 4 Vdd

Style 5 5x3.2 Ceramic SMD

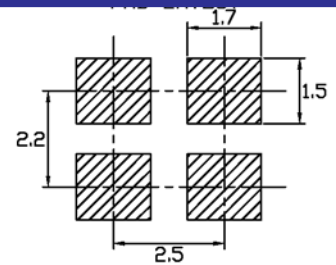


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 1 CONTROL
 2 GND
 3 OUTPUT
 4 Vdd

Recommended Solder Pad Layout



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Note: Bypass Vdd to GND with a 0.01µF capacitor

