

Helping Customers Innovate, Improve & Grow



### Features

5X7 Surface Mount Package  
Reflow Process Compatible Optional  
ACMOS, TTL and LVPECL

### Typical Applications

Base Stations  
Test Equipment  
Telecom & Wireless Infrastructure  
Digital Switching

### Previous Vectron Model Numbers

C5250, MC025, MC031, MC034, and MC035

### Frequency Range

1 MHz – 800 MHz

### Standard Frequencies

19.44, 32.768, 44.736, 51.84, 77.76, 155.52, 622.08 MHz

### Frequency Stabilities<sup>1</sup>

Parameter	Min	Typ	Max	Units	Operating temp range	Options <sup>5</sup>
vs. operating temperature range					0 ... +70°C	
(Referenced to +25°C)					-40 ... +85°C	
Parameter	Min	Typ	Max	Units	Condition	
Initial tolerance	-500		+500	ppb	at time of shipment, nominal EFC	
vs. supply voltage change	-2		+2	ppm	$V_s \pm 5\%$	
vs. load change	-1		+1	ppm	Load $\pm 5\%$	
vs. aging / year	-5	$\pm 3$	+5	ppm		
vs aging / year (following years)	-1		+1	ppm		

## RF Output

Parameter	Min	Typ	Max	Units	Condition
Signal	ACMOS				
Load		15	50	pF	
Signal Level (Vol)			0.5	VDC	with Vs=5.0V and 15pF load
			0.3	VDC	with Vs=3.3V and 15pF load
Signal Level (Voh)	4.5			VDC	with Vs=5.0V and 15pF load
	3.0			VDC	with Vs=3.3V and 15pF load
Rise and fall times for ACMOS (measured 10% to 90%)			10	ns	1.0 to 23.9 MHz
			5	ns	24.0 to 79.9 MHz
			3	ns	80.0 to 125.0MHz
Duty cycle	45		55	%	@ 50% Vs < 15 MHz
	40		60	%	@ 50% Vs >= 15 MHz

Signal	TTL				
Load			10	pF	
Signal Level (Vol)			0.5	VDC	with Vs=5.0V and 15pF load
Signal Level (Voh)	4.5			VDC	with Vs=5.0V and 15pF load
Rise and fall times for TTL (measured 0.8V to 2.0V)			5	ns	1.0 to 23.9 MHz
			3	ns	24.0 to 125 MHz
Duty cycle	45		55	%	@ 1.4V < 15 MHz
	40		60	%	@ 1.4V >= 15 MHz

Signal	PECL				
Load			50	ohm	Into Vs=2V or Thevenin Equivalent
Signal Level (Vol)			-1.62	VDC	
Signal Level (Voh)	-1.025			VDC	
Startup Time			10	ms	
Rise and fall times for PECL (measured 20% to 80%)			1000	ps	< 100 MHz
			600	ps	>= 100 MHz
Duty cycle	45		55	%	@ 50% Vdd
	40		60	%	@ 50% Vdd
Jitter (rms)			5	ps	BW = 10Hz to 20 MHz
			1	ps	BW = 12 kHz to 20 MHz
Period Jitter (pk-pk)			40	ps	10,000 samples- Rising edge

## Supply Voltage (Vs)

Parameter	Min	Typ	Max	Units	Condition
Supply voltage	4.75	5	5.25	VDC	
Current consumption			15	mA	ACMOS/TTL 1.0 to 23.9 MHz
			20	mA	ACMOS/TTL 24 to 49.9 MHz
			40	mA	ACMOS/TTL 50 to 80.0 MHz
			100	mA	LVPECL No load
Supply voltage	3.135	3.3	3.465	VDC	
Current consumption			6	mA	ACMOS 1.0 to 14.90 MHz
			8	mA	ACMOS 15.0 TO 39.9 MHz
			12	mA	ACMOS 40.0 TO 59.9 MHz
			16	mA	ACMOS 60.0 TO 79.9 MHz
			60	mA	ACMOS 80.0 to 125.0 MHz
			100	mA	LVPECL No load

## Frequency Tuning

Parameter	Min	Typ	Max	Units	Condition	Options <sup>5</sup>
Absolute Pull Range		±30		ppm		
		±50		ppm		
Linearity		10	15	%		
Tuning Slope	Positive					
Control Voltage Range	0.5	2.5	4.5	VDC	with Vs=5.0V	
	0.3	1.65	3.0	VDC	with Vs=3.3V	

## Additional Parameters

Parameter	Min	Typ	Max	Units	Condition
Phase Noise <sup>3</sup>	-60	dBc/Hz	10	Hz	Measured @ 52.00 MHz
	-90	dBc/Hz	100	Hz	
	-120	dBc/Hz	1	kHz	
	-140	dBc/Hz	10	kHz	
	-145	dBc/Hz	100	kHz	
Phase Noise <sup>3</sup>	-50	dBc/Hz	10	Hz	Measured @ 155.52 MHz
	-80	dBc/Hz	100	Hz	
	-110	dBc/Hz	1	kHz	
	-133	dBc/Hz	10	kHz	
	-145	dBc/Hz	100	kHz	
Output Enable <sup>6</sup>	Logic „0“ input = Outputs disabled (Tri-state) Logic „1“ or floating input = Outputs enabled				ACMOS/TTL Output
	Logic „0“ input = Outputs disabled (Tri-state) Logic „1“ or floating input = Outputs enabled				PECL/LVPECL Output
Weight			<2	g	
Processing & Packing	Handling & processing note				

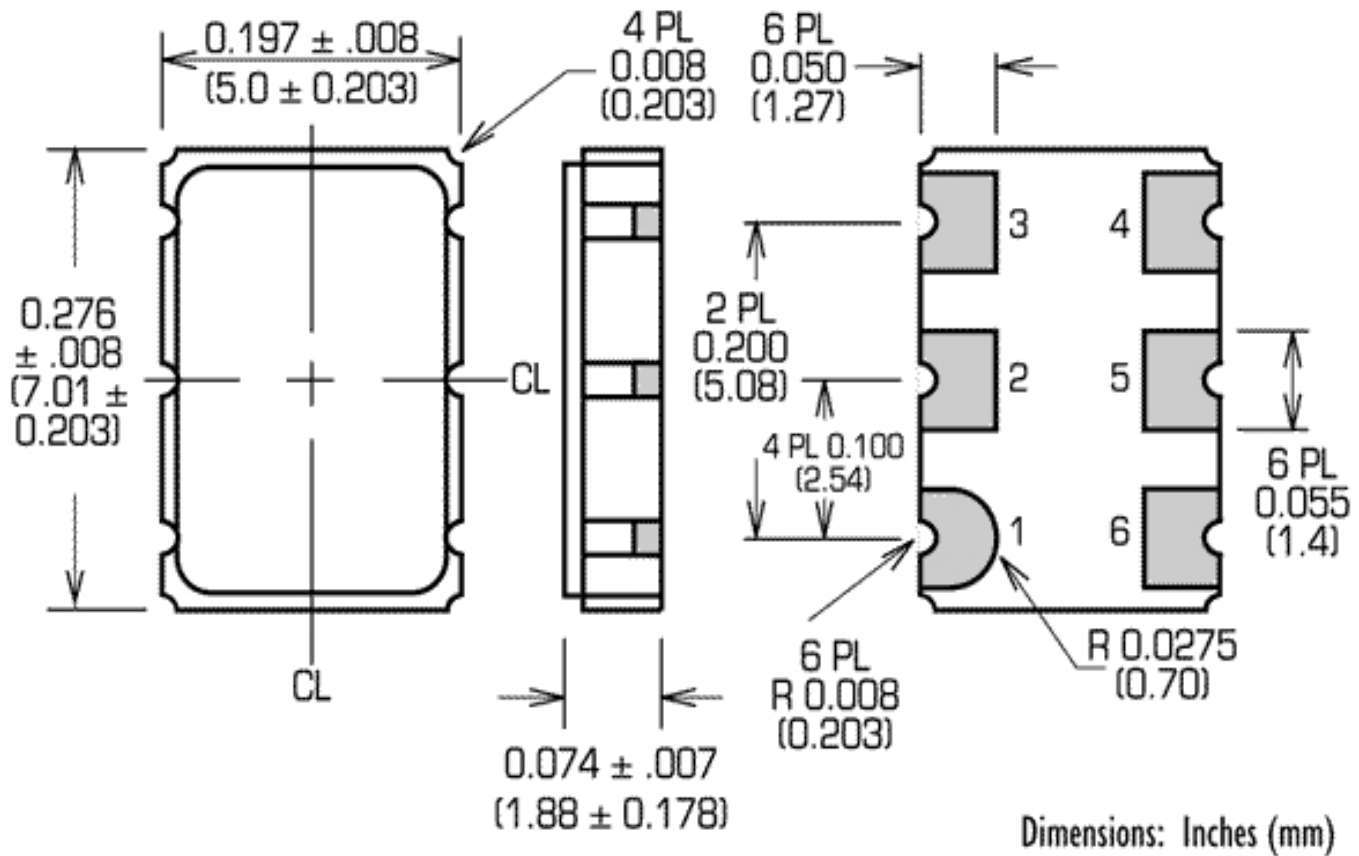
## Absolute Maximum Ratings

Parameter	Min	Typ	Max	Units	Condition
Supply voltage (Vs)			7.0	V	with Vs=5.0, 3.3VDC
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

## Enclosure

### Type B

Height "H" = 1.88 ± 0.178



Pin Connections (ACMOS/TTL)		Pin Connections (PECL/LVPECL)	
1	Control Voltage	1	Control Voltage
2	Enable/Disable or N/C	2	Enable/Disable or N/C
3	Ground (Case)	3	Ground (Case)
4	RF Output	4	RF Output
5	N/C	5	Complementary Output
6	Supply Voltage	6	Supply Voltage

## How to order this product:

Use this worksheet to forward the following information to your factory representative :										
Model	Height	-	Supply Voltage Code	RF Output Code	Temperature Range	-	Stability	Option	-	Frequency
VX-704	0	-	E	A	E	-	KXX	0	-	300M000000

Height:  
0: 1.88 mm

Supply Voltage:  
D: 5 V  
E: 3.3 V

RF Output Code:  
A: ACMOS  
B: TTL  
C: PECL/LVPECL

Temperature Range:  
E: -40...+85°C  
T: 0...+70°C

Option:  
0: Future Use

Stability Code (1st digit):  
G: ±30ppm  
K: ±50ppm

Enable Code (2nd digit):  
A: Enable Hi, Tristate  
B: Enable Hi, Fixed Logic  
C: Enable Lo, Tristate  
D: Enable Lo, Fixed Logic  
X: No Enable

Screening Code (3rd digit):  
X: No Screening

### Notes:

- 1 Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2 Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)
- 3 Phase noise degrades with increasing output frequency.
- 4 Subject to technical modification.
- 5 Contact factory for availability.