C5300 VCXO

Typical Applications
Base Stations
Test Equipment
Telecom & Wireless Infrastructure
Digital Switching

Features
9X14 J Leaded Surface Mount Package
Reflow Process Compatible Optional
ACMOS, TTL and LVPECL

Previous Corning Model Numbers
MC044, MC344, MC046, MC346, MC047, MC347, MC049, MC349, MC048, MC318, MC328, and MC348

Frequency range
1.0 to 800.0 MHz (ACMOS/TTL available up to 125 MHz. LVPECL frequencies above 220 MHz are achieved through use of PLL or analog multiplier)

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

Frequency stabilities[1]

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
vs. operating temperature range (Referenced to +25°C)	0 -45		+70 +85	°C °C		C-xxx F-xxx
Supply voltage change vs. load change vs aging /1 Year vs. aging / year (following Years)	-2 -1 -5 -1	±3	+2 +1 +5 +1	ppm ppm ppm ppm	V_S ± 5% Load ± 5%	

Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code[5]
Supply voltage	4.75	5	5.25	VDC		**SV050**
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		**SV033**
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	

RF output

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

Signal	TTL					RFT
Load			10			

Vectron International, LLC 100 Watts Street Mount Holly Springs PA 17065 t 717 486 3411 f 717 486 5920 www.vectron.com

Signal Level (Vol)			0.5	VDC	Vs= 5.0V and 15pF load
Signal Level (Voh)	4.5			VDC	Vs= 5.0V and 15pF load
Rise and fall times for TTL (measured 0.8V to 2.0V)			5 3	ns ns	1.0 to 23.9 MHz 24 to 125 MHz
Duty Cycle	45 40		55 60	% %	@ 1.4V < 15 MHz @ 1.4V ≥ 15 MHz
Signal	**PECL/LVPECL**				**RFP**
Load			50	Ω	Into Vs-2V or Thevenin Equivalent
Signal Level (Vol)			Vs -1.62	VDC	
Signal Level (Voh)	Vs- 1.025			VDC	
Start-up Time			10	mS	
Rise and fall times (measured @ 20% to 80%)			1000 600	ps ps	<100 MHz ≥ 100 MHz
Duty cycle LVPECL	45		55	%	@ 50% Vdd
	40		60	%	@ 50% Vdd
Jitter (rms)			5 1	ps ps	BW = 10Hz to 20 MHz BW = 12 kHz to 20 MHz
Period Jitter (pk-pk)			40	ps	10,000 samples- Rising edge

Frequency Tuning (EFC)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Absolute Pull Range		±30		ppm		AP033
		±50		ppm		AP050
Linearity		10	15	%		
Tuning Slope		Positive				
Control Voltage Range	0.5 0.3	2.5 1.65	4.5 3.0	VDC VDC	with Vs=5.0VDC with Vs=3.3VDC	

Additional parameters

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

Vectron International, LLC 100 Watts Street Mount Holly Springs PA 17065 t 717 486 3411 f 717 486 5920 www.vectron.com

Absolute Maximum Ratings

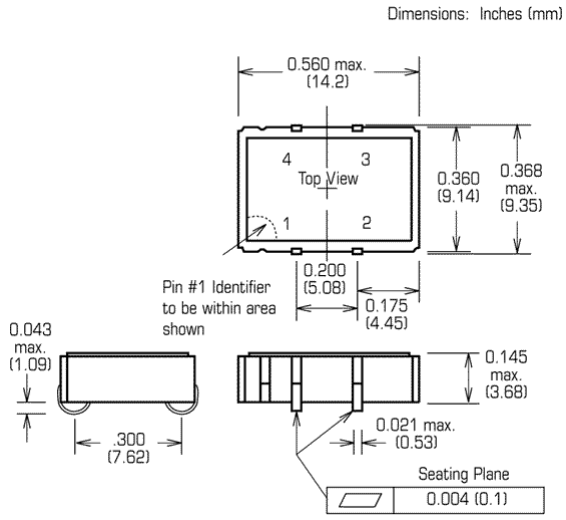
Parameter	Min	Typ	Max.	Units	Condition
Supply voltage (Vs)			7.0	V	Vs=5.0VDC
			7.0	V	Vs=3.3VDC
Operable temperature range	-55		+85	°C	
Storage temperature range	-55		+125	°C	

Enclosures

Type A - ACMOS/TTL

Package Codes:

Code	Height "H"	Pin Length "L"
A1	.368 max	1.09

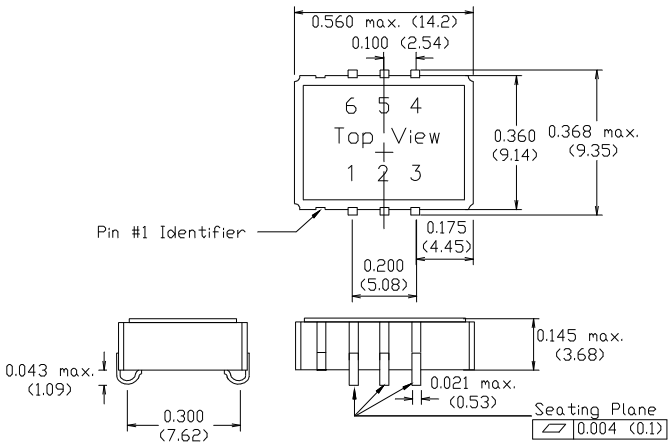


Pin Connections

1 Control Voltage
2 Ground (Case)
3 RF Output
4 Supply Voltage

Type B - ACMOS/TTL

Code	Height "H"	Pin Length "L"
B1 E2 = Enable/Disable pin 2 X = N/C pin 2	.368 max	1.09



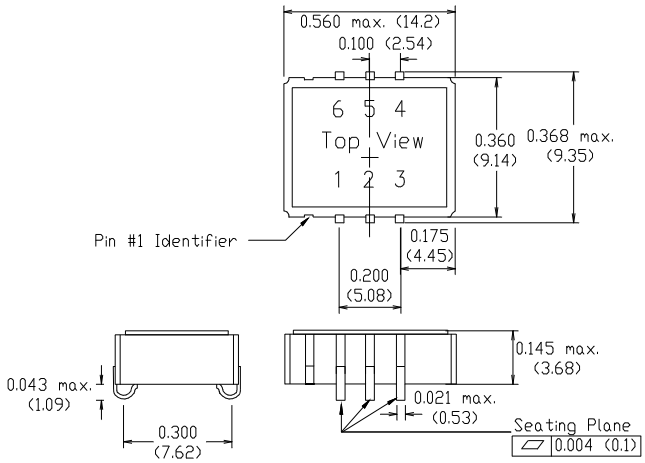
Pin Connections

1 Control Voltage
2 Enable/Disable or N/C
3 Ground (Case)
4 RF Output
5 N/C
6 Supply Voltage

Type C - PECL/LVPECL

Vectron International, LLC 100 Watts Street Mount Holly Springs PA 17065 t 717 486 3411 f 717 486 5920 www.vectron.com

Package Codes:		
Code C1 E2 = Enable/Disable pin 2 X = N/C pin 2	Height "H" .368 max	Pin Length "L" 1.09



Pin Connections	
1	Control Voltage
2	Enable/Disable or NC
3	Ground (Case)
4	RF Output
5	Complementary Output
6	Supply Voltage

How to Order this Product:

Step 1	**Use this worksheet to forward the following information to your factory representative:**					
Model	**Supply Voltage Code**	**Output Code**	**APR Code**	**Package Code**	**Enable/Disable**	
C5300						
Example	*C5300*	*SV050*	*RFA*	*AP050*	*A1*	*E1*

Step 2	**The factory representative will then respond with a Corning Model Number in the following Configuration:**		
Model	**Package Code**	**Dash**	**Dash Number**
C5300	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N C5300A1-001

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 increasing output frequency.
4 Subject to technical modification.
5 Contact factory for availability.
6 Contact factory for other options.

Vectron International, LLC 100 Watts Street Mount Holly Springs PA 17065 t 717 486 3411 f 717 486 5920 www.vectron.com