

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 stabilities¹

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)			0.5 0.3	VDC VDC	V _s = 5.0V and 15pF load V _s =3.3V and 15pF load	
Signal Level (Voh)	4.5 3.0			VDC VDC	V _s = 5.0V and 15pF load V _s =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% V _s < 15 MHz @ 50% V _s ≥ 15 MHz	

Signal	TTL					RFT
Load			10			

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Signal Level (Vol)			0.5	VDC	Vs= 5.0V and 15pF load Vs= 5.0V and 15pF load 1.0 to 23.9 MHz 24 to 125 MHz @ 1.4V < 15 MHz @ 1.4V ≥ 15 MHz
Signal Level (Voh)	4.5			VDC	
Rise and fall times for TTL (measured 0.8V to 2.0V)			5 3	ns ns	
Duty Cycle	45 40		55 60	% %	
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	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

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	2.5	4.5	VDC	with Vs=5.0VDC	
	0.3	1.65	3.0	VDC	with Vs=3.3VDC	

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition	
Phase Noise ³			-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	
			-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					

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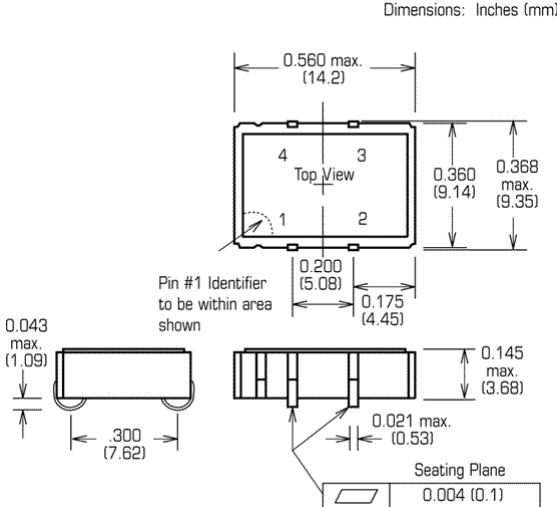
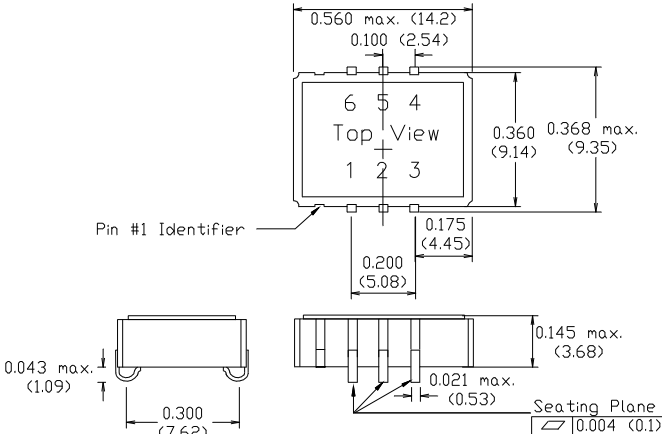
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Absolute Maximum Ratings

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 - AC MOS/TTL			Type B - AC MOS/TTL		
Package Codes:					
Code A1	Height "H" .368 max	Pin Length "L" 1.09	Code B1 E2 = Enable/Disable pin 2 X = N/C pin 2	Height "H" .368 max	Pin Length "L" 1.09
Dimensions: Inches (mm)  Top View: 0.560 max. (14.2) width, 0.360 max. (9.14) height, 0.368 max. (9.35) height. Pin 1 Identifier to be within area shown. Pin 1: 0.200 (5.08) width, 0.175 (4.45) height. Pin 2: 0.145 max. (3.68) height. Pin 3: 0.021 max. (0.53) height. Pin 4: 0.043 max. (1.09) height. Seating Plane: 0.004 (0.1).			 Top View: 0.560 max. (14.2) width, 0.100 (2.54) height, 0.360 (9.14) height, 0.368 max. (9.35) height. Pin 1 Identifier. Pin 1: 0.200 (5.08) width, 0.175 (4.45) height. Pin 2: 0.145 max. (3.68) height. Pin 3: 0.021 max. (0.53) height. Pin 4: 0.043 max. (1.09) height. Pin 5: 0.021 max. (0.53) height. Pin 6: 0.043 max. (1.09) height. Seating Plane: 0.004 (0.1).		
Pin Connections			Pin Connections		
1 Control Voltage 2 Ground (Case) 3 RF Output 4 Supply Voltage			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

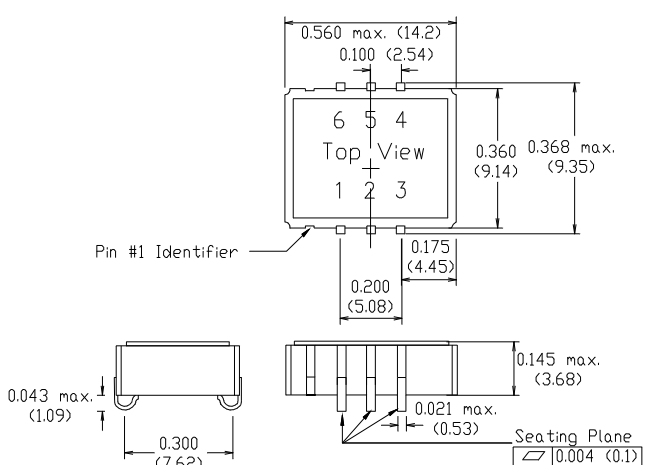
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Package Codes:		
Code C1 E2 = Enable/Disable pin 2 X = N/C pin 2	Height "H" .368 max	Pin Length "L" 1.09
		
Pin Connections		
1 Control Voltage 2 Enable/Disable or NC 3 Ground (Case) 4 RF Output 5 Complementary Output 6 Supply Voltage		

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.

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