Typical Applications

Base Stations
Test Equipment
Telecom & Wireless Infrastructure
Digital Switching
Military and Avionics

Features

9X14 J Leaded Surface Mount Package
Reflow Process Compatible
ACMOS, TTL and LVPECL
Class B Screening optional
Military Operating Temperature Range Optional

Previous Corning Model Numbers

MC042, MC342, MC036 and MC037

Frequency range

1.0 to 800.0 MHz (ACMOS/TTL available up to 125 MHz. PECL and LVPECL frequencies above 220 MHz are achieved through use of PLL 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	Operating temp range	Ordering Code[5]
vs. operating temperature range (Referenced to +25°C)	-100		+100	ppm	0 … +70°C	C104
	-50		+50	ppm	0 … +70°C	C505
	-25		+25	ppm	0 … +70°C	C255
	-15		+15	ppm	0 … +70°C	C155
	-100		+100	ppm	-40…+85°C	F104
	-50		+50	ppm	-40 … +85°C	F505
	-25		+25	ppm	-40 … +85°C	F255
	-50		+50	ppm	-55…+125°C	M505
	-100		+100	ppm	-55…+125°C	M104
Overall tolerance (vs. initial accuracy, op. temp. range, vs load, vs supply, vs 1st year aging) [7]	-100		+100	ppm	-0…+70°C	C104
	-50		+50	ppm	0…+70°C	C505
	-25		+25	ppm	0…+70°C	C255
	-20		+20	ppm	0…70°C	C205
	-100		+100	ppm	-40…+85°C	F104
	-50		+50	ppm	-40 … +85°C	F505
	-25		+25	ppm	-40 … +85°C	F255
	-65		+65	ppm	-55…+125°C	M605
	-100		+100	ppm	-55…+125°C	M104
Parameter	**Min**	**Typ**	**Max.**	**Units**	**Condition**	**Ordering Code [5]**
Initial tolerance	-15		+15	ppm	@ 25°C	T155
	-25		+25	ppm	@ 25°C	T255
	-50		+50	ppm	@ 25°C	T505
	-100		+100	ppm	@ 25°C	T104
Supply voltage change vs. load change vs aging /1 Year vs. aging / year (following Years)	-2 -1 -3 -1		+2 +1 +3 +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	5.0	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 125.00 MHz	
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 84.9 MHz	
			40	mA	ACMOS 85.0 to 125.0 MHz	
			75	mA	PECL/ LVPECL No load <200 MHz	
			100	mA	PECL/LVPECL No load ≥ 200MHz	

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 6 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			
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 Vcc-2V or Thevenin Equivalent	
Signal Level (Vol)			Vs -1.62	VDC		
Signal Level (Voh)	Vs- 1.025			VDC		
Rise and fall times (measured @ 20% to 80%)			1000 600	ps ps	<100 MHz ≥ 100 MHz	
Duty cycle LVPECL	45		55	%	@ 50% Vdd	
Jitter (rms)			10 0.5	ps ps	BW = 10Hz to 20 MHz BW = 12 kHz to 20 MHz	
Period Jitter (pk-pk)			40	ps	10,000 Samples - Rising edge	

Additional parameters

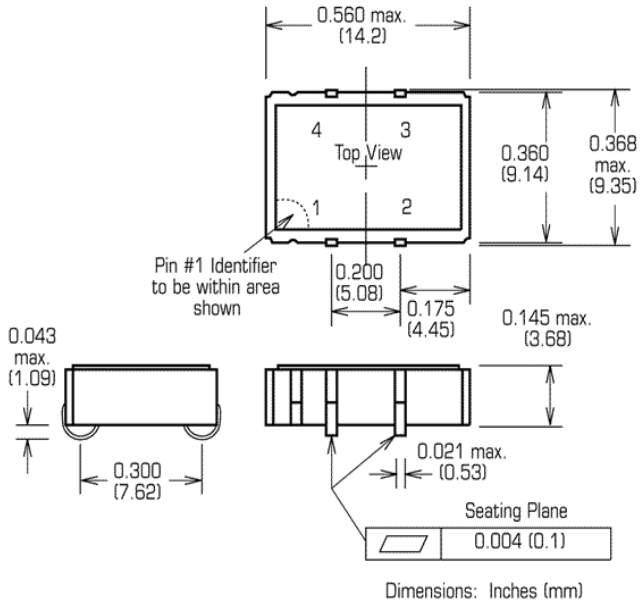
Screening	**Class B, MIL-PRF-55310**					**B**
Screening	**Vectron Verification[9]**					**V**
Output Enable[6]	Logic "0" input = Outputs disabled (Tri-state) Logic "1" or floating input = Outputs enabled**)**				ACMOS/TTL Output	
	Logic "0" or floating input = Outputs enabled Logic "1" input = Outputs disabled (Tri-state**)**				PECL/LVPECL Output	
Weight			**2**	g		
Processing & Packing	Handling & processing note					

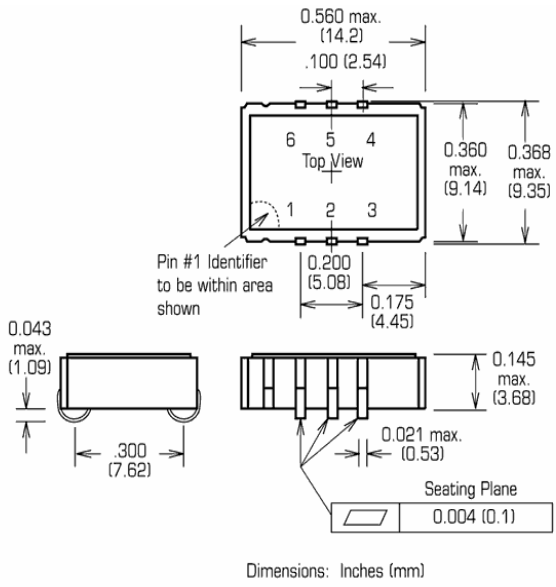
Absolute Maximum Ratings

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		+125	°C	
Storage temperature range	-62		+125	°C	

Enclosures

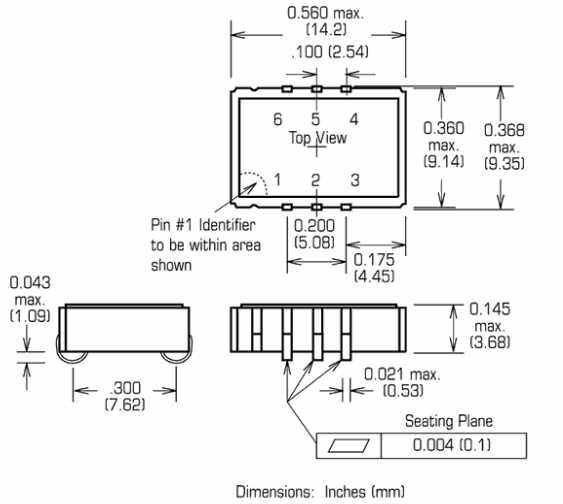
Type A - ACMOS/TTL			**Type B - LVPECL**		
Package Codes:					
Code A1 E1 = Enable/Disable pin 1 X = N/C pin 1 T= Tinned J leads [8] X= No Tinning	Height "H"	Pin Length "L" N/A	Code B1 E1=Enable/Disable pin 1 X = N/C pin 1 T= Tinned J leads [8] X = No Tinning	Height "H"	Pin Length "L"





Pin Connections		Pin Connections	
1 – Enable/Disable or N/C	4 – Supply Voltage	1 – Enable/Disable or N/C	4 – RF Output
2 – Ground (case)		2 – N/C	5 – Complementary Output
3 – Output		3 – Ground (Case)	6 – Supply Voltage

Type C - PECL		
Code C1 E2 = Enable/Disable pin 2 X = N/C pin 2 T= Tinned J leads [8] X = No Tinning	Height "H" 1.88±0.178	Pin Length "L" N/A



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

How to Order this Product:

Step 1	Use this worksheet to forward the following information to your factory representative.						
Model	**Stability Code**	**Initial Accuracy Code**	**Supply Voltage Code**	**RF Output Code**	**Package Code**	**Enable/Disable**	**Tinning**
C1300							
Example C1300	*C505*	*T505*	*SV030*	*RFA*	*A1*	*E1*	*T*

Step 2	The factory representative will then respond with a Vectron Part Number in the following Configuration:		
Model	**Package Code**	**Dash**	**Dash Number**
C1300	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]

Typical P/N C1300A1-0001

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.
7 Overall stabilities do not require an initial accuracy code.
8 Leads tinned IAW Vectron International standard procedure (GR-37409).
9 Vectron verification IAW Vectron International standard procedure (GR-37409).