

Typical Applications

Mil/Space Applications
 Satellite Applications
 Rad Hard Environments

Features

9x14 J Leaded Surface Mount Package
 4 Point Crystal Mount / Swept Quartz³
 Class S Screening IAW MIL-PRF-55310
 100 krad Total Dose Radiation Tolerance³

Nominal Frequency Range: 1 to 85 MHz

Operating Temperature Range

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Operating Temperature Range	-0		+70	°C		C
	-20		+70	°C		D
	-40		+85	°C		F

Supply voltage (Vs)

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Supply voltage	4.75	5	5.25	VDC		SV050
Current consumption (no load)			15	mA	1.0 to 23.9 MHz	
			20	mA	24 to 49.9 MHz	
			40	mA	50 to 85.0 MHz	
Supply voltage	3.135	3.3	3.465	VDC		SV033
Current consumption (no load)			6	mA	1.0 to 14.9 MHz	
			8	mA	15.0 TO 39.9 MHz	
			12	mA	40.0 TO 59.9 MHz	
			16	mA	60.0 TO 85.0 MHz	

RF output

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Signal	ACMOS					RFA
Load		15	50	pF		
Signal Level (Vol)			0.5	VDC	Vs= 5.0V and 15pF load	
			0.3	VDC	Vs=3.3V and 15pF load	
Signal Level (Voh)	4.5			VDC	Vs= 5.0V and 15pF load	
	3.0			VDC	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 85.0 MHz	
Duty cycle	45		55	%	@ 50% Vs < 15 MHz	
	40		60	%	@ 50% Vs ≥ 15 MHz	

Frequency Tuning (EFC)¹

Parameter	Min	Typ	Max.	Units	Condition	Ordering Code
Absolute Pull Range	±30			ppm		AP030
	±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	

Screening level

Parameter	Condition	Ordering Code
Class S Screening	IAW MIL-PRF-55310	S
Class B Screening	IAW MIL-PRF-55310	B
Engineering Model	No Screening	X

Additional parameters

Parameter	Min	Typ	Max.	Units	Condition
Phase Noise ² (measured at 52 MHz)		-60		dBc/Hz	10 Hz
		-90		dBc/Hz	100 Hz
		-120		dBc/Hz	1 kHz
		-140		dBc/Hz	10 kHz
		-145		dBc/Hz	100 kHz
Weight		<2		g	

Absolute Maximum Ratings

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

Enclosure

Type A - AC MOS

<u>Ordering Codes</u>	Maximum Height	Maximum Stand-off
A1 = 4 leads ⁵	0.188 max (4.77)	0.043 max (1.09)
T = Tinned J leads ⁴		
X = No Tinning		

Dimensions: Inches (mm)

Pin Connections

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

How to Order this Product: ⁶

Step 1	Use this worksheet to forward the following information to your factory representative (example follows):						
Model	Operating Temperature Code	Supply Voltage Code	RF Output Code	Frequency Tuning Code	Screening Code	Package Code	Tinning Code
C5116	F	SV033	RFA	AP030	S	A1	T

Step 2	The factory representative will then respond with a Vectron Part Number in the following configuration:			
Model	Package Code	Dash	Dash Number	
C5116	[Customer Specified Package Code]	-	[Factory Generated 4 digit number]	

Typical P/N: C5116A1-0001

Notes:

- 1 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)
- 2 Phase noise degrades with increasing output frequency.
- 3 Flight models will be manufactured with swept quartz and Class S die; engineering models will be manufactured with cultured quartz and commercial grade components.
- 4 When requested, leads tinned per Vectron International standard procedure (GR-37409)
- 5 Contact factory for other options.
- 6 Please be sure to specify nominal frequency.