



VS-369
Voltage Controlled SAW Oscillator

Table 1. Electrical Performance

Parameter	Minimum	Typical	Maximum	Units	Notes
Frequency					
Center Frequency	300		1500	MHz	V _c = +1.65 @ +25°C 15 yrs
Initial Tolerance	-50		+150	ppm	
Temperature Stability (-40°C to +85°C)	-200		+10	ppm	
V _s Supply Voltage change	-5		+5	ppm	
V _s Aging	-30		+30	ppm	
Frequency Tuning					All conditions including 15 yr Aging
Control Voltage	0.3		3.0	V	
Absolute Pull Range	± 20			ppm	
Slope		90		ppm/V	
Input Impedance	100			kΩ	
Modulation Bandwidth	100			kHz	
Linearity			±10	%	
Supply					5V optional
Voltage	3.135	3.3	3.465	V	
Current (No Load)		25	35	mA	
Output- Sinewave					rms (1 sigma) peak-peak 10kHz to 20MHz
Sinewave, into 50Ω	+3			dBm	
Harmonics			-25	dBc	
Jitter @ 1040 MHz		1.8		ps	
Jitter @ 1040 MHz		15		ps	
Jitter @ 1040 MHz		21		fs	

Table 2. Typical Single Side-Band Phase Noise (dBc/Hz)

Output Frequency	10 Hz	100 Hz Offset	1 kHz Offset	10 kHz Offset	100 kHz Offset	1 MHz Offset
1040 MHz	-40	-70	-100	-125	-145	-150

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Outline Diagram

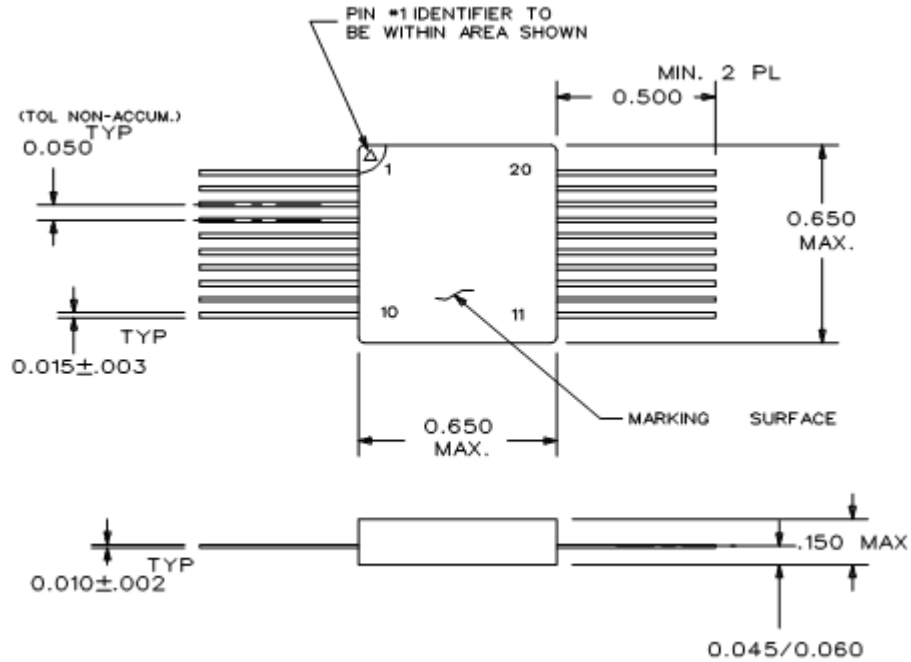


Table 3. Pin Out

Pin	Symbol	Function
1	Vc	Control Voltage
2	GND	Case and Electrical Ground
3 - 7	N/C	No Connection
8	GND	Case and Electrical Ground
9	Output	RF Output
10	GND	Case and Electrical Ground
11 - 19	N/C	No Connection
20	Vcc	Supply Voltage

All “No Connection” leads are not connected internally and may be grounded externally.

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Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Power Supply	V_{CC}	+6V	V
Voltage Control Range	V_C	-0.5 to $V_{CC}+0.5V$	V
Storage Temperature	T_S	-55 to +125	°C

Stresses in excess of the absolute maximum ratings can permanently damage the device. Functional operation is not implied at these or any other conditions in excess of conditions represented in the operational sections of this datasheet. Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

Reliability

The VS-369 family is capable of meeting the following qualification tests:

Environmental Compliance

Parameter	Conditions
Mechanical Shock	MIL-STD-883, Method 2002
Mechanical Vibration	MIL-STD-883, Method 2007
Solderability	MIL-STD-883, Method 2003
Gross and Fine Leak	MIL-STD-883, Method 1014
Resistance to Solvents	MIL-STD-883, Method 2016

Handling Precautions

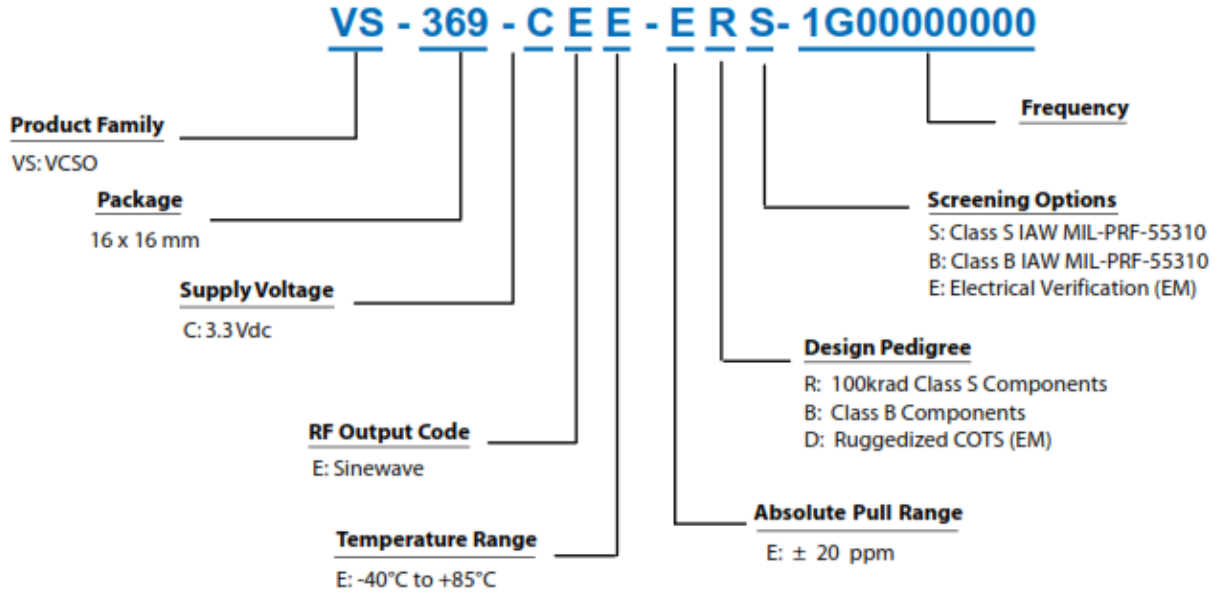
Although ESD protection circuitry has been designed into the VS-369, proper precautions should be taken when handling and mounting. VI employs a human body model and a charged-device model (CDM) for ESD susceptibility testing and design protection evaluation.

ESD Ratings

Model	Minimum	Conditions
Human Body Model	1500 V	MIL-STD 883, Method 3015
Charged Device Model	1000 V	JESD 22-C101

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Ordering Information



SEM 10/17/16

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