

- ◆ Stability to  $\pm 25$  PPM
- ◆ +3.3Vdc or +5.0Vdc Operation
- ◆ HCMOS Output
- ◆ Operating Temperature to  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- ◆ Output Enable
- ◆ Tape & Reel

**Model 357**  
**5x7mm Low Cost  
 Surface Mount VCXO**

**Electrical Characteristics (Load = 15 pF)**

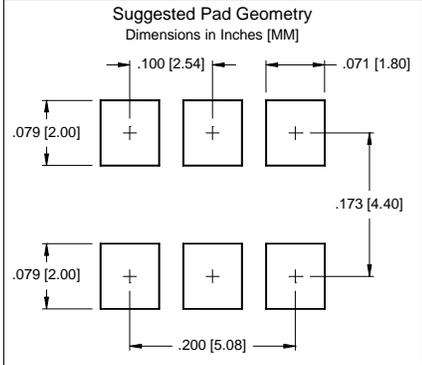
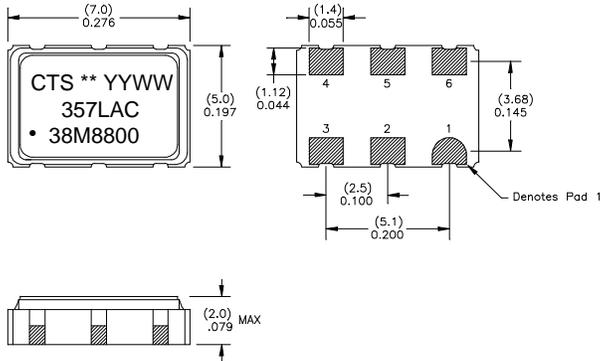
Parameter	Symbol	Min	Typical	Max	Unit
Supply Voltage	$V_{CC}$				
Model 357S		4.5	5.0	5.5	V
Model 357L		2.97	3.3	3.63	V
Operating Supply Current	$I_{CC}$				
Model 357S		-	-	40	mA
Model 357L		-	-	50	mA
Output Voltage Levels					
Model 357S					
Logic '1' Level	$V_{OH}$	$0.9 * V_{CC}$	-	-	V
Logic '0' Level	$V_{OL}$	-	-	$0.1 * V_{CC}$	V
Model 357L					
Logic '1' Level	$V_{OH}$	$0.9 * V_{CC}$	-	$0.1 * V_{CC}$	V
Logic '0' Level	$V_{OL}$	-	-	-	V
Output Transition Times					
Rise Time	$T_R$	-	-	5.0	nS
Fall Time	$T_F$	-	-	5.0	nS
Start Up Time	-	-	-	10.0	mS
Output Duty Cycle (@ 50% Level)	SYM	45	-	55	%
Phase Jitter (Bandwidth 12K – 20M Hz)	-	-	< 1	-	pS RMS
Output Clock Frequency	$f_O$				
Model 357S		1.5	-	45	MHz
Model 357L		1.5	-	45	MHz
Control Voltage	$V_C$				
Model 357S		0.5	2.5	4.5	V
Model 357L		0.3	1.65	3.0	V
Absolute Pull Range (Note 1)					
Model 357L, 357S (See Ordering Information)	-	32,50,80 or 100	-	-	$\pm$ PPM
Linearity	L	-	-	10	%
Transfer Function	-	-	Positive	-	-
Input Impedance	$Z_C$	50	-	-	KOhms
Modulation Roll-off (@ -3dB)	-	10	-	-	KHz

Notes

1. Minimum guaranteed (voltage controlled) frequency shift over all conditions (temperature, aging, power supply and load) for the required lifetime at the average effective ambient operating temperature.

CTS Frequency Products / 171 Covington Drive / Bloomingdale, IL 60108  
 Phone: 630-924-3500 Fax: 630-924-6610

**MECHANICAL SPECIFICATIONS**



\*\* Manufacturing Site Code. Frequency shall be marked With 4 significant digits to the Right if the "M".

Pin	Symbol	Functional Description
1	VC	Control Voltage
2	EOH	Tri-State Enable
3	GND	Circuit and Package Ground
4	Output	RF Output
5	N.C.	Not Connected Internally
6	Vcc	Supply Voltage

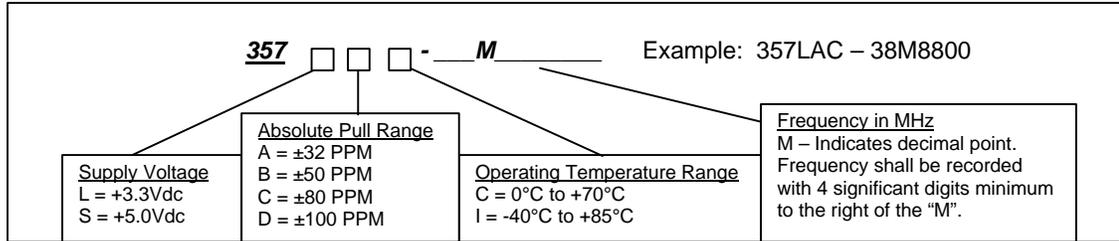
**Enable Truth Table**

Pin 2	Pin 4
"1"	Output
"0"	High Imp.
Open	Output

**ENVIRONMENTAL SPECIFICATIONS**

- Storage Temperature: -55°C to +125°C
- Temperature Cycle: 400 cycles, -55°C to +125°C, 10 min dwell, 1 min transfer
- Mechanical Shock: 1,500g's, 0.5mS, ½ sinewave, 3 shocks each direction, in 3 planes
- Sinusoidal Vibration: 0.06" D.A., 10 to 55 Hz and 20g's, 55 to 2,000 Hz, 3 cycles per plane
- Gross Leak: No leak shall appear while immersed in an FC40 or equivalent liquid at 125°C for 20 seconds
- Fine Leak: Mass spectrometer leak rates less than 2x10<sup>-8</sup> cc/sec air equivalent
- Resistance to Soldering Heat: Product must survive 3 reflows of 260°C peak, 10 seconds maximum
- High Temperature Operating Bias: 2,000 hours at 125°C, disregarding frequency shift
- Frequency Aging: < 5 ppm shift in 1,000 hours at 85°C

**ORDERING INFORMATION**



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