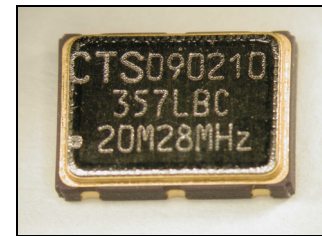


- ◆ Frequency Stability to  $\pm 20$  PPM
- ◆ +3.3Vdc or +5.0Vdc Operation
- ◆ HCMOS Output
- ◆ Operating Temperature to  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$
- ◆ Output Enable Standard
- ◆ Tape & Reel Packaging
- ◆ Pb Free



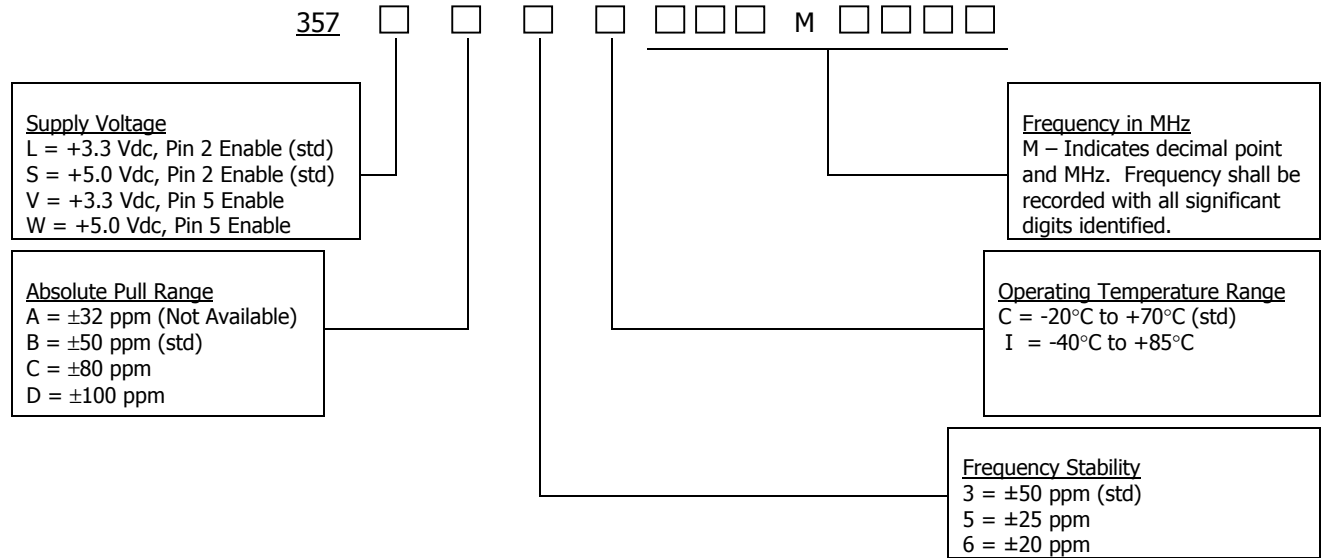
**ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL	MIN	TYPICAL	MAX	UNIT
Output Frequency Range Model 357S, 357W Model 357L, 357V	$f_o$	1.5 1.5	- -	80 80	MHz MHz
Frequency Stability (Note 1) (See Ordering Information)	-	-	-	20, 25, 50	$\pm$ ppm
Absolute Pull Range (Note 2) (See Ordering Information)	-	32, 50, 80, 100	-	-	$\pm$ ppm
Supply Voltage Model 357S, 357W Model 357L, 357V	$V_{CC}$	4.5 2.97	5.0 3.3	5.5 3.63	V V
Operating Supply Current $C_L = 15\text{pf}$ Model 357S, 357W Model 357L, 357V	$I_{CC}$	- -	- -	40 50	mA mA
Output load	$C_L$	-	-	15	pf
Control Voltage Model 357S, 357W Model 357L, 357V	$V_C$	0.5 0.3	2.5 1.65	4.5 3.0	V V
Output Voltage Levels					
Logic '1' Level $I_{OH} = 14\text{ mA}$	$V_{OH}$	$0.9 * V_{CC}$	-	-	V
Logic '0' Level $I_{OL} = -14\text{ mA}$	$V_{OL}$	-	-	$0.1 * V_{CC}$	V
Output Transition Times (10% to 90%)					
Rise & Fall Time $C_L = 15\text{pf}$	$T_R, T_F$	-	-	5.0	ns
Output Duty Cycle (@ 50% Level)	SYM	45	-	55	%
Start Up Time	-	-	-	10.0	ms
Phase Jitter (Bandwidth 12K – 20M Hz)	-	-	< 1	-	ps RMS
Linearity < 52 MHz > 52 MHz	L	- -	- -	10 15	%
Transfer Function	-	-	Positive	-	-
Input Impedance	$Z_C$	50	-	-	K Ohms
Modulation Roll-off (@ -3dB)	-	10	-	-	KHz
Tri-state – Oscillator Run Enable Input Voltage Disable Input Voltage Enable/ Disable Time	$V_{IH}$ $V_{IL}$ $t_{PLZ}$	2.5 - -	- - -	- 0.5 100	V V ns

Notes

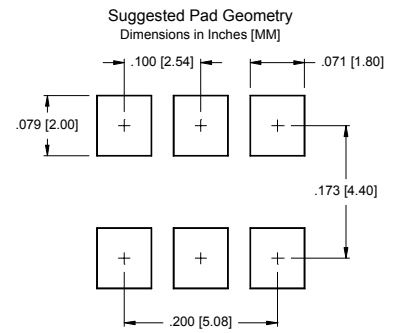
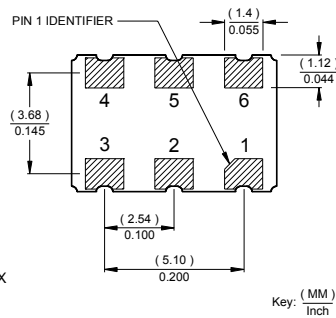
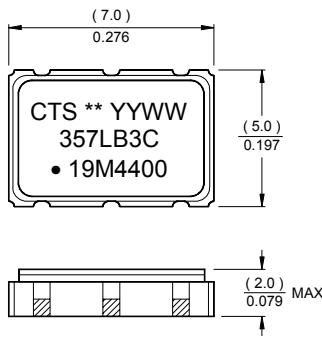
1. Inclusive of initial tolerance at the time of shipment, changes in supply voltage, load and operating temperature.
2. Minimum guaranteed frequency shift from  $f_o$  over variations in temperature, aging, power supply and load at an average operating temperature of  $+40^{\circ}\text{C}$  for 10 years.

**ORDERING INFORMATION**



Example P/N: 357LB3C019M4400

**MECHANICAL SPECIFICATIONS**



**Marking Notes:**  
 1. \*\* Manufacturing Site Code.  
 2. YY – year, WW – week.  
 3. Frequency shall be marked with 4 significant digits to the right of the “M”.

Terminations plated with 0.3 – 1.0 um gold (Au).

Pin	Symbol	Functional Description
1	VC	Control Voltage
2	EOH	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

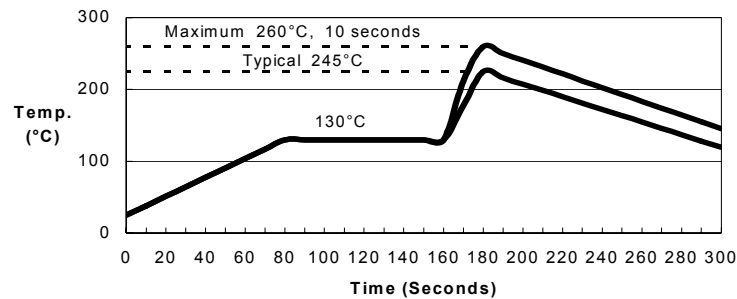
**QUALITY AND RELIABILITY**

Quality Systems meet or exceed the requirements of ISO 9000: 2000 standards.  
 Reliability Audits are performed on this or similar products with results available upon request.

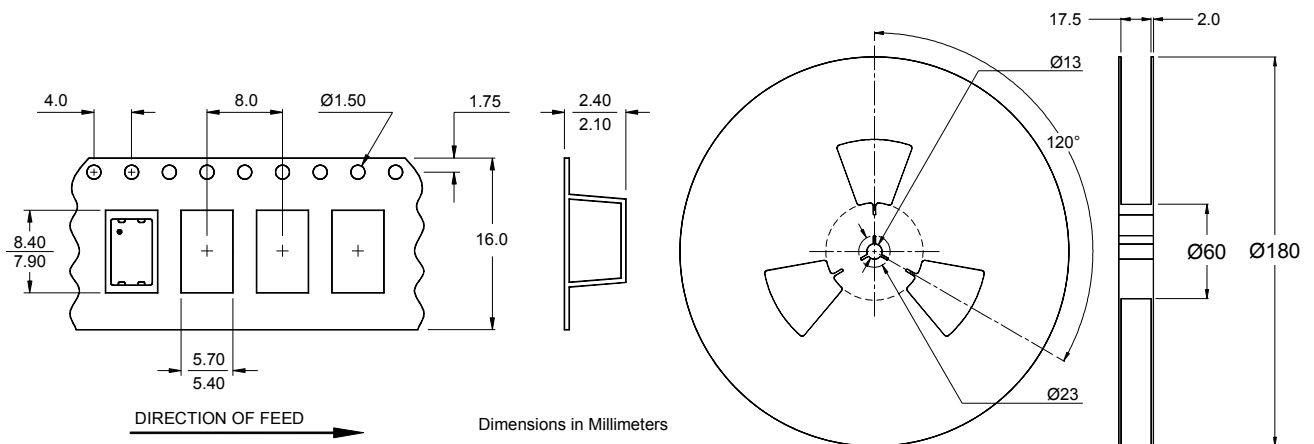
**ENVIRONMENTAL SPECIFICATIONS**

- 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  $2 \times 10^{-8}$  ATM 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.

**Suggested Reflow Profile**



**TAPE AND REEL INFORMATION**



Device quantity shall be 1,000 pieces on a 180mm reel.