

- ◆ Frequency Stability to ± 20 PPM
- ◆ +3.3Vdc or +5.0Vdc Operation
- ◆ HCMOS Output
- ◆ Operating Temperature to -40°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	f_o	1.5	-	80	MHz
Model 357L, 357V		1.5	-	80	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	V_{CC}	4.5	5.0	5.5	V
Model 357L, 357V		2.97	3.3	3.63	V
Operating Supply Current $C_L = 15\text{pf}$					
Model 357S, 357W	I_{CC}	-	-	40	mA
Model 357L, 357V		-	-	50	mA
Output load	C_L	-	-	15	pf
Control Voltage					
Model 357S, 357W	V_C	0.5	2.5	4.5	V
Model 357L, 357V		0.3	1.65	3.0	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	L	-	-	10	%
> 52 MHz		-	-	15	%
Transfer Function	-	-	Positive	-	-
Input Impedance	Z_C	50	-	-	K Ohms
Modulation Roll-off (@ -3dB)	-	10	-	-	KHz
Tri-state – Oscillator Run					
Enable Input Voltage	V_{IH}	2.5	-	-	V
Disable Input Voltage	V_{IL}	-	-	0.5	V
Enable/ Disable Time	t_{PLZ}	-	-	100	ns

Notes

- Inclusive of initial tolerance at the time of shipment, changes in supply voltage, load and operating temperature.
- 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

357 ☐ ☐ ☐ ☐ ☐ ☐ ☐ M ☐ ☐ ☐ ☐

Supply Voltage
L = +3.3 Vdc, Pin 2 Enable (std)
S = +5.0 Vdc, Pin 2 Enable (std)
V = +3.3 Vdc, Pin 5 Enable
W = +5.0 Vdc, Pin 5 Enable

Absolute Pull Range
A = ±32 ppm (Not Available)
B = ±50 ppm (std)
C = ±80 ppm
D = ±100 ppm

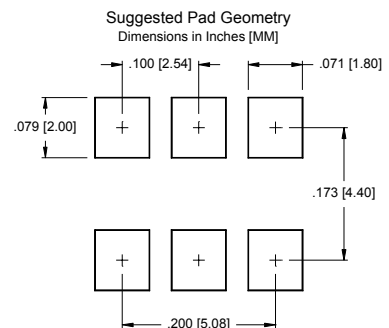
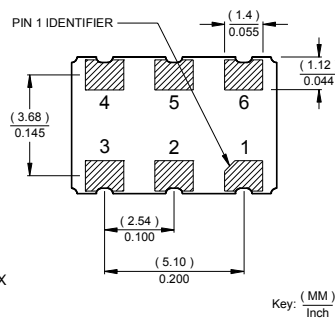
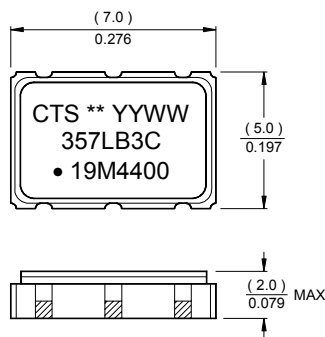
Frequency in MHz
M – Indicates decimal point and MHz. Frequency shall be recorded with all significant digits identified.

Operating Temperature Range
C = -20°C to +70°C (std)
I = -40°C to +85°C

Frequency Stability
3 = ±50 ppm (std)
5 = ±25 ppm
6 = ±20 ppm

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

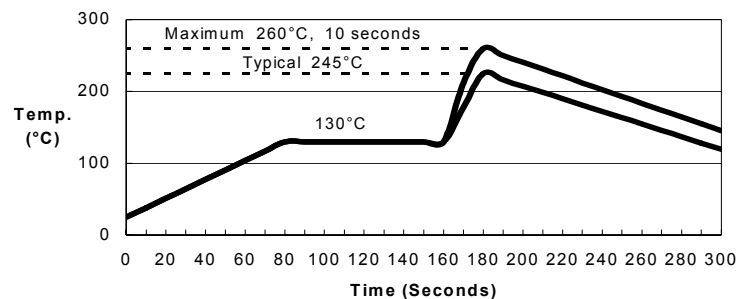
QUALITY AND RELIABILITY

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.

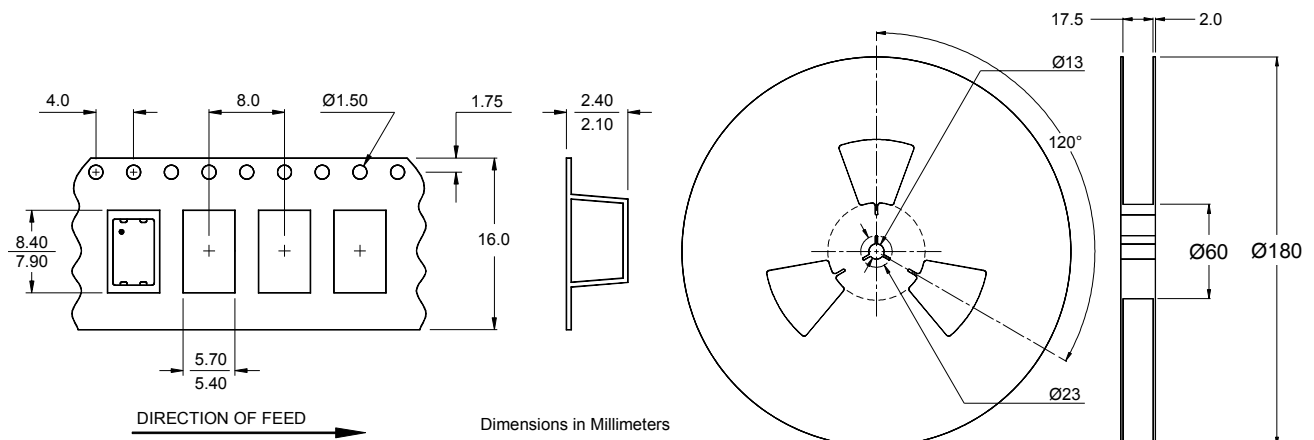
ENVIRONMENTAL SPECIFICATIONS

- 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 2×10^{-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.