

- ◆ Stability ±32 PPM for 20 Years
- ◆ +3.3Vdc or +5.0Vdc Operation
- ◆ CMOS/TTL Compatible
- ◆ Operating Temperature to -40°C to +85°C
- ◆ Output Enable Standard
- ◆ Tape & Reel Packaging



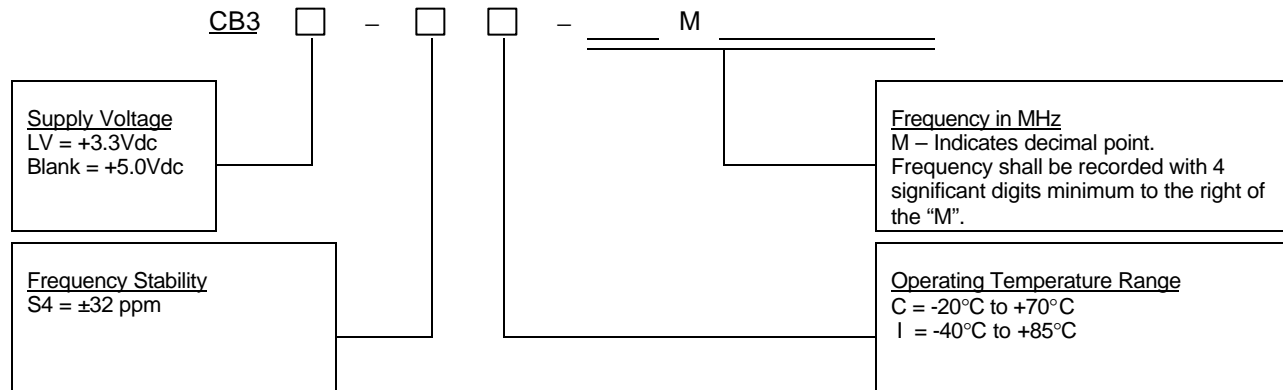
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
Output Frequency Range	f _o					
CB3		-	1.5	-	80	MHz
CB3LV		-	1.5	-	80	MHz
Stability (Note 1)	Δf/f	-	-32	-	32	ppm
Supply Voltage	V _{cc}					
CB3		-	4.5	5.0	5.5	V
CB3LV		-	3.0	3.3	3.6	V
Operating Supply Current	I _{cc}					
CB3		1.5 MHz to 20 MHz C _L =50pF	-	10	25	mA
		20.1 MHz to 80 MHz C _L =50pF	-	30	50	mA
CB3LV		1.5 MHz to 20 MHz C _L =15pF	-	7	12	mA
		20.1 MHz to 80 MHz C _L =15pF	-	20	40	mA
Output Load	C _L					
		1.5 MHz to 50 MHz	-	-	50	pF
		50.1 MHz to 80 MHz	-	-	30	pF
Output Voltage Levels						
Logic '1' Level	V _{OH}	CMOS Load	V _{cc} -0.5V	-	-	V
	V _{OH}	10 TTL Load	-	V _{cc} -0.6V	-	
Logic '0' Level	V _{OL}	CMOS or TTL Load	-	-	0.4	
Output Current	I _{OH} I _{OL}	V _{OH} = 3.9V/2.2V V _{OL} = 0.4V	V _{cc} = 4.5V/3.0V V _{cc} = 4.5V/3.0V	- -	-16/-8 +16/+8	mA
Output Duty Cycle (50% Level)	SYM		45	-	55	%
Rise & Fall Time (10% - 90% Level)	t _r , t _f					
CB3		1.5 MHz to 20 MHz C _L =50pF	-	8	10	nS
		20.1 MHz to 80 MHz C _L =50pF	-	4	8	nS
CB3LV		1.5 MHz to 20 MHz C _L =15pF	-	6	8	nS
		20.1 MHz to 80 MHz C _L =15pF	-	3	4	nS
Start Up Time	-		-	-	10	mS
Enable Function (Note 2)	-	See 'Enable Truth Table' on Page 2	-	-	-	-
Phase Jitter	t _{jms}	(Bandwidth 12 KHz – 20 MHz)	-	< 1	-	pS RMS

Notes:

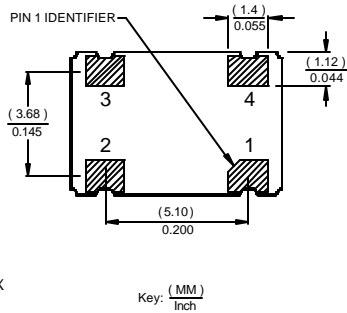
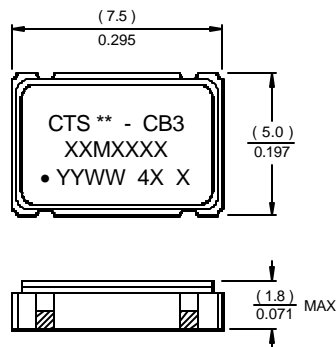
1. Inclusive of initial tolerance at time of shipment, changes in supply voltage, load, temperature and 20 year aging at an average operating temperature of 40 °C.
2. Reference CTS Application Note 014-0002-0.

ORDERING INFORMATION

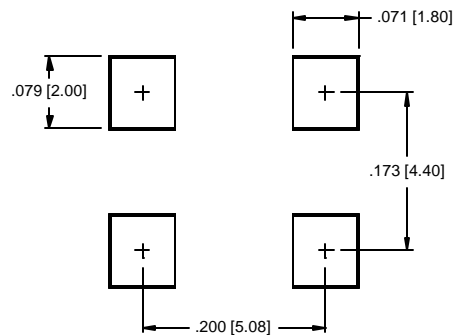


Example P/N: CB3LV – S4I – 20M4800 or CB3 – S4I – 20M0000

MECHANICAL SPECIFICATIONS



Suggested Pad Geometry
Dimensions in Inches [MM]



Marking Notes:

1. ** Manufacturing Site Code.
2. Frequency marked with 4 significant digits after the "M".
3. 4X – stability/temp. code.
4. X – voltage code.

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

Pin	Symbol	Functional Description
1	EOH	Enable
2	GND	Circuit and Package Ground
3	Output	RF Output
4	Vcc	Supply Voltage

Enable Truth Table

Pin 1	Pin 3
"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.

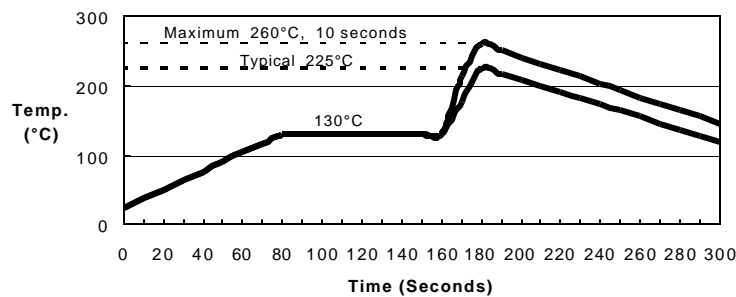
ENVIRONMENTAL SPECIFICATIONS

- 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

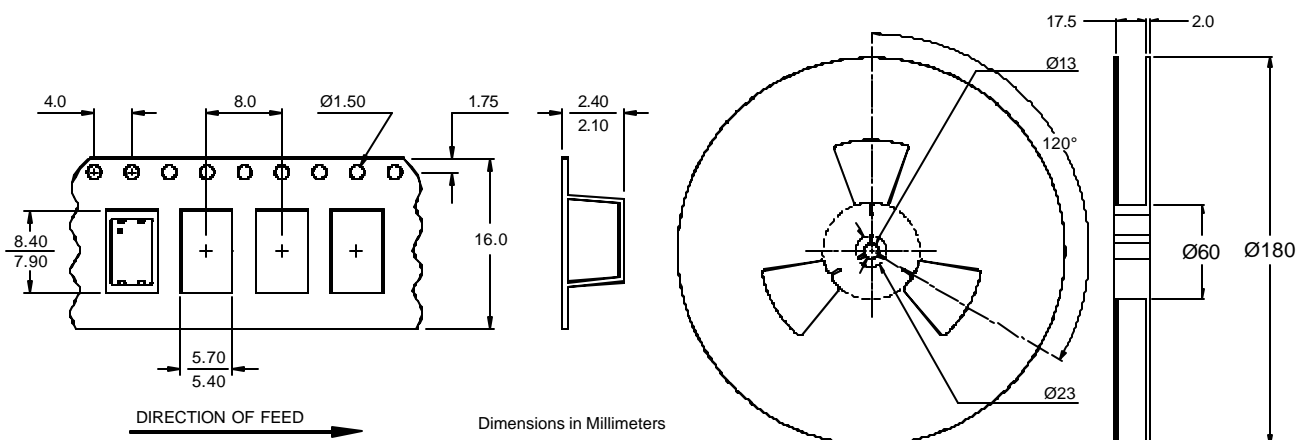
- Gross Leak: No leak shall appear while immersed in an FC40 or equivalent liquid at 125°C for 20 seconds
- Fine Leak: Mass spectrometer leak rates less than 2×10^{-8} cc/sec air equivalent
- Resistance to Soldering Heat: Product must survive 3 reflows of 260°C peak, 10 seconds maximum

- 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.