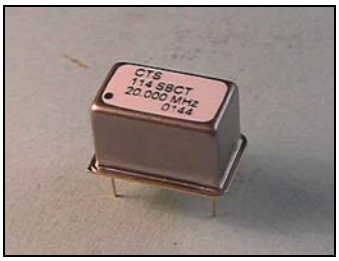
Model 114

Dual-In-Line Stratum 3 OCXO

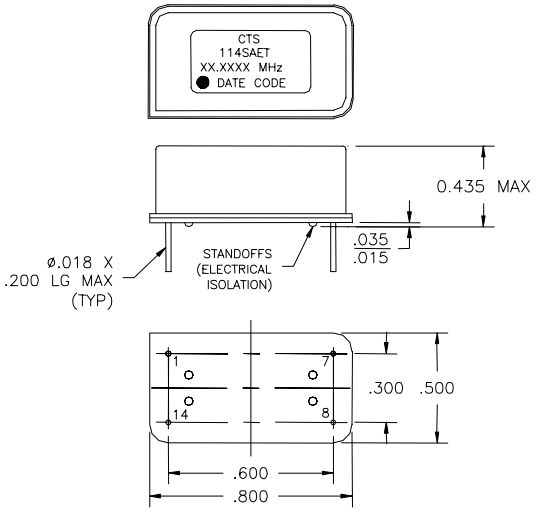
- ♦ Frequency Stability to Stratum 3 of GR-1244
- ♦ Low Cost ASIC Based Design
- ♦ Very Low Phase Jitter: < 1 pSec
- ♦ +3.3Vdc or +5.0Vdc Operation
- ♦ Precision Low Aging "AT" Cut Crystal
- ♦ Through-Hole or Surface Mount Configuration
- ♦ 6/6 RoHS Compliant



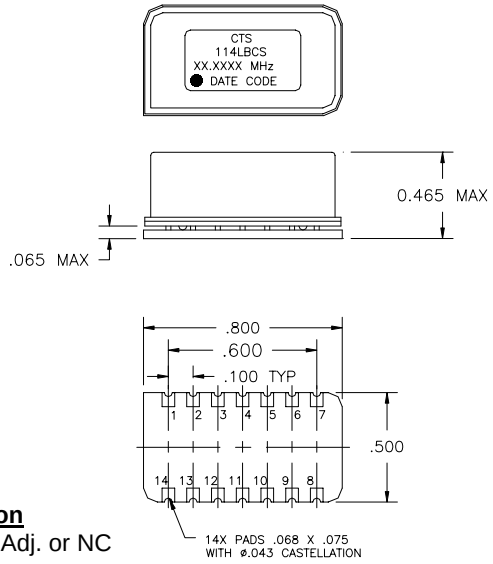
Electrical Characteristics

Parameter	Sym	Conditions	Min	Typical	Max	Unit
Power Requirements						
Power Supply	V_{cc}	± 5% 114L ± 5% 114S	3.135 4.75	3.30 5.0	3.465 5.25	Vdc Vdc
Turn-On Power	P_{max}	Vcc=Max. Std. Load		3.5	4.0	W
Steady State Power	P_{ss}	Vcc=Max. Std. Load @ +25°C		1.5		W
Warm-Up Time	Twu	To within ± 0.3ppm @ +25°C			5	minutes
Frequency Stabilities						
Center Frequency	f_{nom}		8	10 12.8 16.384 19.44 20	38.88	MHz
Initial Tolerance	f_{cal}	Ta=+25°C (At time of Shipment)		±0.1		ppm
Freq. vs. Temp.	$\Delta f/\Delta Temp$	0° to +70°C -40° to +85°C		±0.075 ±0.150	±0.125 ±0.250	ppm
Freq. vs. Voltage	$\Delta f/\Delta Vcc$	Vcc ±5%		± 0.05		ppm
Freq. vs Time (Aging)	$\Delta f/\Delta Time$	Per day 20 years		±0.005 ±2.5		ppm
24 Hour Holdover Stability	$\Delta f/24Hr$	Inclusive of Temp., Supply Variation and 24Hrs. Aging		±0.20	±0.37	ppm
Total Free-Running Accuracy	$\Delta f/Life$	All Cond. for 20 Yrs. (Ref. to f_{nom})			±4.6	ppm
Electronic Frequency Adjust (Optional)	$\Delta f/Vc$	f_{min} @ Vc=0V f_{max} @ Vc=Vcc f_{nom} @Vc=0.5Vcc	±9.2			ppm
Waveform: CMOS Output						
Symmetry	Sym	@ 50% Level	40	50	60	%
Amplitude	Vo	Logic "1" Logic "0"	0.9Vcc		 0.1Vcc	V V
Rise/Fall Times	tr, tf	20% to 80%		6	10	ns
Load	RL	Output to Ground		10kΩ // 15pF		
Phase Noise	Pn	Offset = 10Hz		-80		dBc/Hz
@ f_o=20MHz		100Hz		-115		dBc/Hz
		1kHz		-135		dBc/Hz
		10kHz		-140		dBc/Hz
		100kHz		-143		dBc/Hz
Phase Jitter		12kHz to 20MHz Bandwidth			1.0	ps RMS

Through-Hole Outline



Surface Mount Outline



Pin	Function
1	Elec. Freq. Adj. or NC
7	Ground
8	Output
14	+Vcc Supply

Environmental / Mechanical Specifications

Storage Temperature:	-55° to +125°C
Reflow Soldering:	will withstand 240°C for 20 Seconds
Shock:	50 G's, 11 mSec. Pulse (3 Shocks/Axis)
Vibration:	10 G's peak, 10 to 500 Hz
Case:	4-Pin Dual-In-Line
Seal:	Resistance Weld
Lead Finish, Thru-Hole	Solder Coated, 96.5/3.5 Sn/Ag
Pad Finish, Surface Mt.	Gold Flash, <10 micro inch over Ni plated Cu
MSL:	Level 1

Model 114 Standard Options