

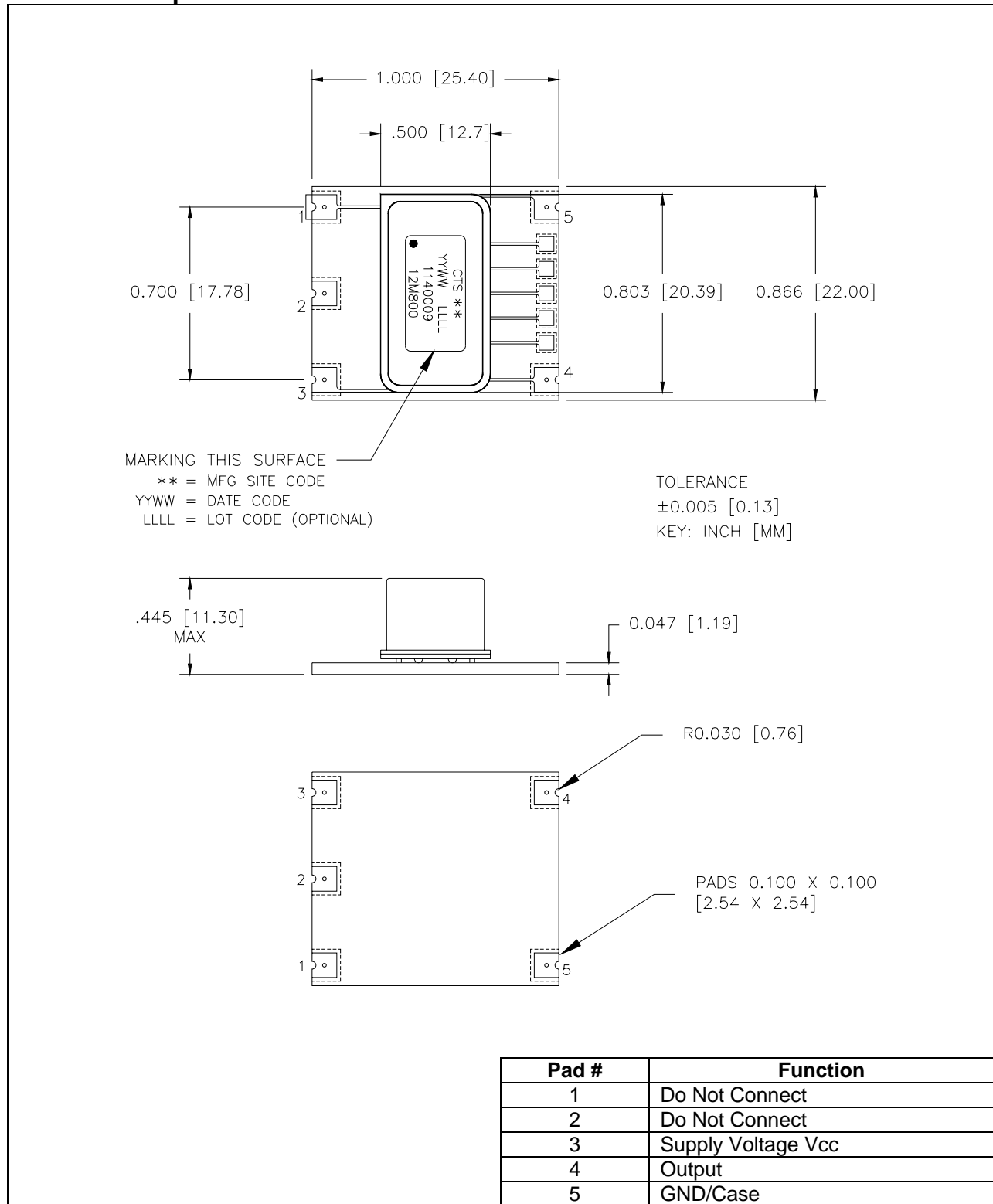
- ◆ Surface Mount 22x25mm, FR-4 platform for TCE Match
- ◆ Frequency Stability to Stratum 3 of GR-1244
- ◆ +3.3Vdc or 5.0Vdc Operation
- ◆ Low Phase Jitter: <1pSec
- ◆ Precision Low Aging "AT" Cut Crystal
- ◆ 6/6 RoHS compliant



### Electrical Characteristics

Parameter	Conditions/Remarks	Min	Typical	Max	Unit
<b>Power Requirements</b>					
Power Supply	± 5% 112L	3.135	3.300	3.465	Vdc
	± 5% 112S	4.75	5.0	5.25	
Turn-On Power	Max. Vcc, Load = 15pF	-	3.5	4.0	W
Steady State Power	Max. Vcc, Load = 15pF, @+25°C	-	-	1.5	W
<b>Frequency Stability</b>					
Center Frequency	$f_{nom}$	10	10,12.8, 16.384, 19.44, 20,38.88	38.88	MHz
Initial Tolerance	Ta=+25°C (at time of shipment)	-	± 0.100	-	ppm
Freq. vs. Temperature	0°C to 70°C	-	±0.75	±0.125	ppm
	-40°C to +85°C	-	±0.150	±0.250	
Freq. vs. Voltage	Vcc ± 5%	-	± 0.050	-	ppm
Freq. vs Time (Aging)	Per day (after 30 days)	-	± 0.005	-	ppm
	20 years	-	± 2.500	-	
Holdover Stability	All Causes, for 24hrs	-	±0.20	± 0.370	ppm
Total Free-Running Accuracy	All Causes for 20 Yrs (Ref. to $f_{nom}$ )	-	-	± 4.600	ppm
Warm-Up Time	@ +25°C, to within 0.3ppm	-	-	5	minutes
Electrical Frequency Adjust (Optional)	$f_{min}$ @ Vc=0V $f_{max}$ @ Vc=Vcc $f_{nom}$ @ Vc=0.5Vcc	±9.2			ppm
<b>Waveform: CMOS Square Wave Output</b>					
Symmetry	@ 50% Level	40	50	60	%
Amplitude	Logic "1"	0.9*Vcc	-	-	V
	Logic "0"	-	-	0.1*Vcc	V
Rise/Fall Times	20% to 80%	-	6	10	ns
Load	Output to Ground	-	15pF ± 5%	-	
Phase Noise	Offset = 10Hz	-	-80	-	dBc/Hz
	100Hz	-	-115	-	dBc/Hz
	1kHz	-	-135	-	dBc/Hz
	10kHz	-	-140	-	dBc/Hz
	100kHz	-	-143	-	dBc/Hz
Phase Jitter	12 KHz to 20 MHz Bandwidth	-	0.3	1.0	ps RMS

## Mechanical specifications



### 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:	Dual-In-Line, mounted on FR-4 platform
Seal:	Resistance Weld
Mounting Pad Finish	Gold Flash, <10 micro inch over Ni plated Cu
MSL:	Level 1
6/6 RoHS:	Fully compliant to RoHS Directive 2002/95/EC

### Model 112 Standard Options

