Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_0	13.5		212.5	MHz	@1.8V

Frequency Stabilities

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
vs. Operating Temperature	ΔF/F	See Ordering Information			ppm	Includes initial tolerance @ +25°C, deviation over operating temperature.
vs. Aging		-3.0		+3.0	ppm	1st year

RF Output

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Output Type	LVDS/LVPECL					
Output Load	50 Ω to (Vcc-2) V_{DC} 100 Ω differential load					LVPECL Waveform LVDS Waveform
Symmetry	T_{DC}	45	50	55	%	@LVPECL – 0.5V_{DD} LVDS -1.25 V
Logic "1" Function	V_{OH}	Vcc -1.085		Vcc -0.880	V	LVPECL V_{DD}= 3.3V
	V_{OH}	Vcc -1.085		Vcc -0.740		LVPECL V_{DD}= 2.5V
Logic "0" Function	V_{OL}	Vcc -1.830		Vcc -1.63	V	LVPECL V_{DD}= 3.3V
	V_{OL}	Vcc -1.830		Vcc -1.305		LVPECL V_{DD}= 2.5V
Differential Voltage		247	450	454	mV	LVDS Load
Output Offset Voltage	V_{OS}	1.125	1.250	1.375	V	LVDS
Rise/Fall Time	T_R/T_F			0.6	ns	@ 20/80% LVPECL, LVDS
Startup Time	T_{SU}			5	ms	LVPECL, LVDS $T_{ambient}$ = +25°C
Enable Function		70% V_{DD} or N/C			V	Pad 1 or Pad 2 Outputs Enabled
				30% V_{DD}	V	Pad 1 or Pad 2 Outputs disabled to HIGH Impedance State, Oscillator Stops

Phase Noise

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions	
Phase Jitter	ΦJ		0.045		ps RMS	LVPECL	12 kHz – 20 MHz
			0.048		ps RMS	LVDS	

Operating Voltage and Current

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Voltage	Vcc	3.135	3.300	3.465	V	M2520
		2.375	2.500	2.625	V	M2521
		1.710	1.800	1.890	V	M2522 (LVDS only)
Operating Current	I_{CC}			35	mA	LVDS
				70	mA	LVPECL

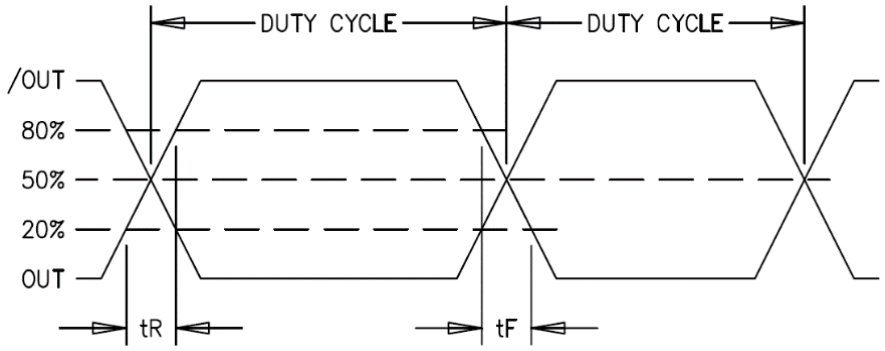
Temperature

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	See Ordering Information			°C	
Storage Temperature	STR	-55		+125	°C	

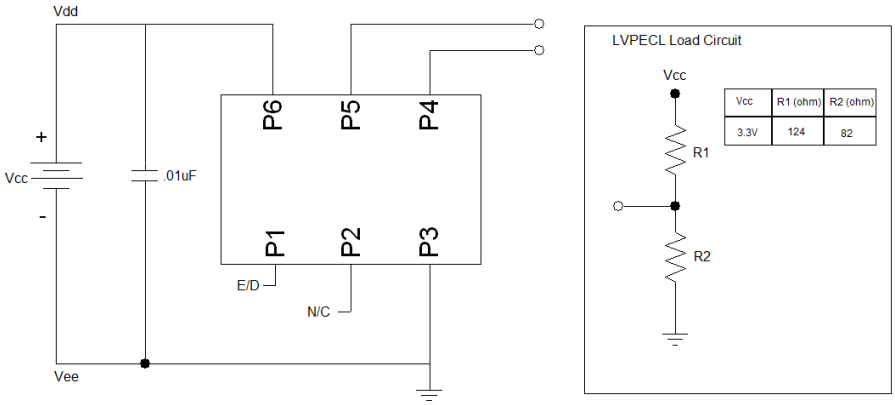
Environmental Conditions

Parameter	Conditions
Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-202, Method 201 & 204 (10g from 10Hz to 2000Hz)
Solderability	EIAJ-STD-002
Hermeticity	MIL-STD-202, Method 112, (1x10-8 atm. cc/s of Helium)
Thermal Cycle	MIL-STD-883, Method 1010, Condition B (-55°C to +125°C, 15 min. dwell, 10 cycles)
Max Soldering Conditions	See solder profile, Figure 1

Output Waveform (LVPECL, LVDS)



Load Circuit Diagrams



Soldering Profile

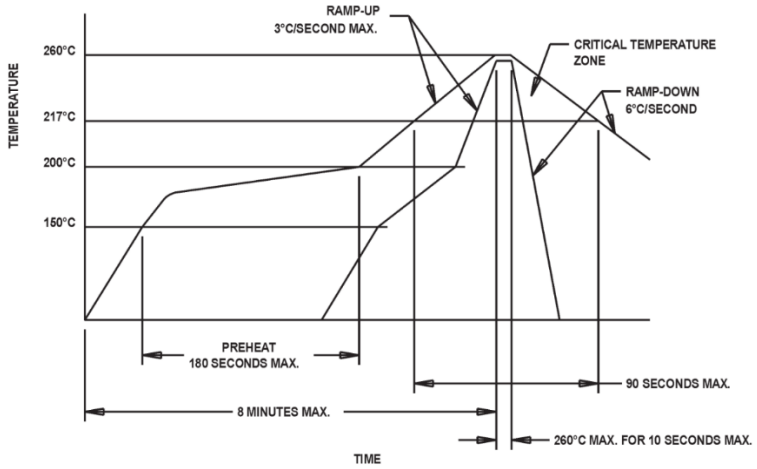
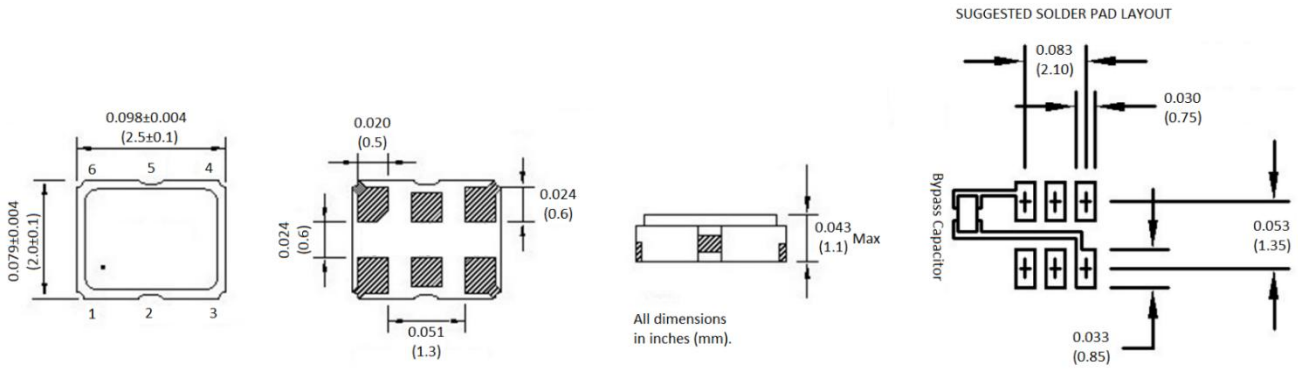


Figure 1

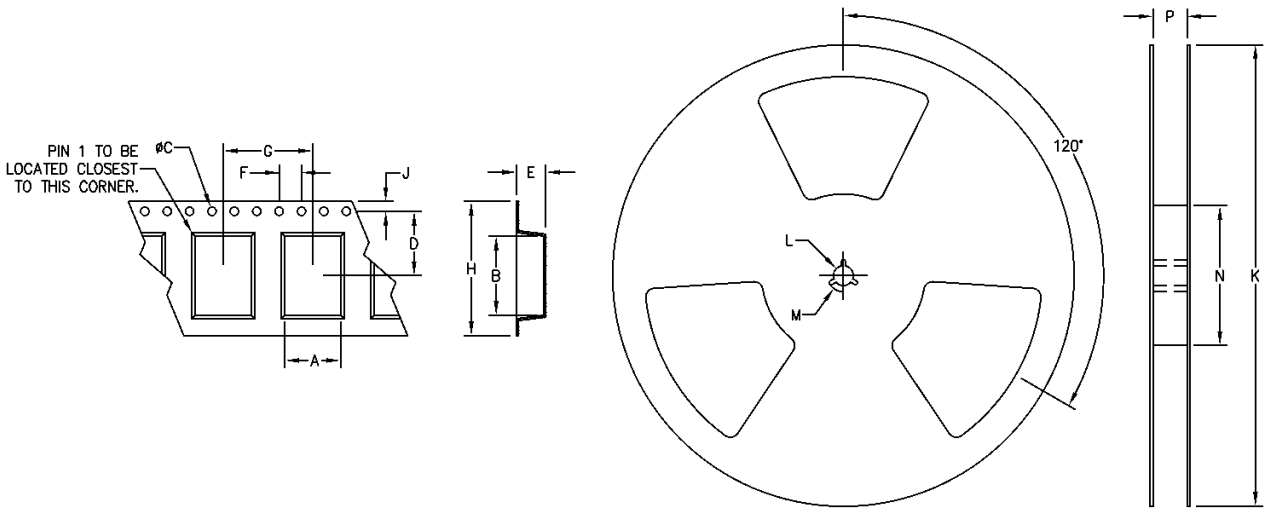
Mechanical and pin out information

Pad	Function
1	Enable/Disable or N/C
2	Enable/Disable or N/C
3	Ground
4	Output
5	Complementary Output
6	Supply +V_{DD}

Package Dimensions



Tape and Reel Specifications



A	B	C	D	E	F	G	H	J	K	L	M	N

Ordering Information

M252x 2 4 B P N 00.0000MHz

Product Series
M2520 = 3.3V
M2521 = 2.5V
M2522 = 1.8V (LVDS Only)

Temperature Range	
2	-40°C to +85°C
4	-55°C to +125°C
6	-20°C to +70°C

Stability	
3	± 100 ppm
4	± 50 ppm
6	± 25 ppm
8	± 20 ppm

Enable/Disable	
B	Enable High (pin 1)
G	Enable High (pin 2)
U	No Enable/Disable

Logic Type	
P	LVPECL
L	LVDS

Package/Lead Configuration	
N	Leadless Ceramic (6 Pad)

Frequency (Customer specified)

Revision History

Date	Rev	Author	Details of Revision
04-20-26	A	HF	Initial Version