

3.3V, MEMS, LVPECL Oscillator



Model: 4MA_Z3AACUGI8

RoHS Compliant / Pb Free/REACH Compliant

Rev. 3/8/2013

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FEATURES

- MEMS Technology
- 3.3V Supply Voltage
- -40 to +85°C Operating Temperature
- 7x5mm Plastic Package
- Low Phase Jitter (0.6pS RMS Typical - 12kHz to 20MHz)
- LVPECL Output

• Developed Frequencies and Part Number Selection

Frequency	Model Number	Part Number
100.000 MHz	4MA100000Z3AACUGI8	848-100-xxxxx
125.000 MHz	4MA125000Z3AACUGI8	848-125-xxxxx
148.500 MHz	4MA148500Z3AACUGI8	848-148.5-xxxxx
150.000 MHz	4MA150000Z3AACUGI8	848-150-xxxxx
156.250 MHz	4MA156250Z3AACUGI8	848-156.25-xxxxx
200.000 MHz	4MA200000Z3AACUGI8	848-200-xxxxx

• ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency (Fo)	50.000 ~ 625.000 MHz ¹
Operating Temperature Range (T _{OPR})	-40 ~ +85°C
Frequency Stability	±50 PPM ²
Supply Voltage (V _{DD})	3.3V ± 10%
Input Current (I _{DD}) (no load)	100mA Typical
Output Symmetry (50% V _A)	48/52%
Rise Time (Tr) (20% ~ 80% V _A)	250 pS
Fall Time (Tf) (80% ~ 20% V _A)	250 pS
Output Voltage (V _{OL})	V _{DD} -1.8V
(V _{OH})	V _{DD} -1.1V Min.
Output Amplitude (Single Ended) (V _A)	0.75Vp-p Typical
Output Load	50 Ohms into V _{DD} -2.0VDC
Start-up Time (T _S)	10mS
Output Disable Time ³	1 uS
Output Enable Time ³	1 uS
Aging (10 years @ 25°C)	±5 PPM Typical
Phase Jitter (12kHz to 20MHz)	0.6 pS RMS Typical
Period Jitter	2.2 pS RMS Typical
Cycle-to-Cycle Jitter (1,000 cycles)	16 pS Peak Typical
Maximum Soldering Temp / Time	260°C / 10 Seconds
Termination Finish	Matte Sn

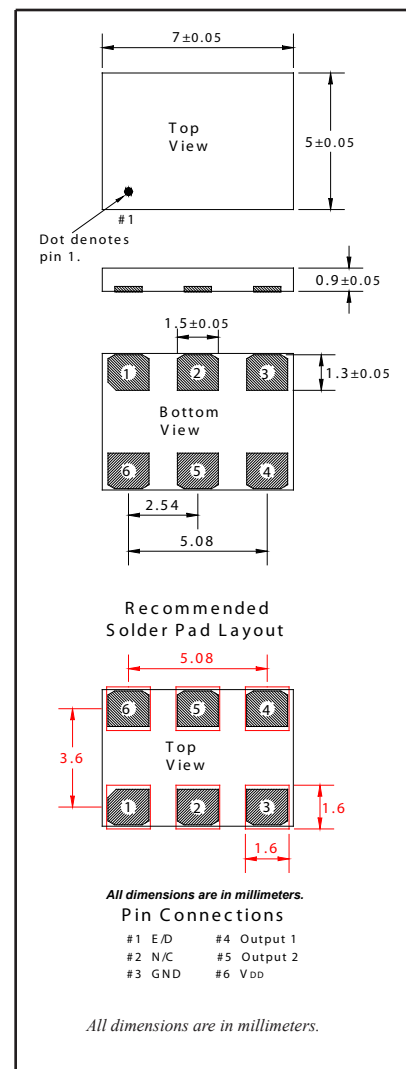
¹ Check for available frequencies.

² Inclusive of 25°C tolerance after reflow, operating temperature range, supply voltage change and aging.

³ An internal pulldown resistor from pin 1 to pin 6 allows active output if pin 1 is left open.

Note: A 0.01μF bypass capacitor should be placed between V_{DD} (Pin 6) and GND (Pin 3) to minimize power supply line noise.

All specifications subject to change without notice.



• ENABLE / DISABLE FUNCTION

(Pin 1)	OUT (Pin 4, Pin 5)
OPEN ³	ACTIVE
'1' Level V _{IH} ≥ 70%V _{DD}	ACTIVE
'0' Level V _{IL} ≤ 30%V _{DD}	High Z

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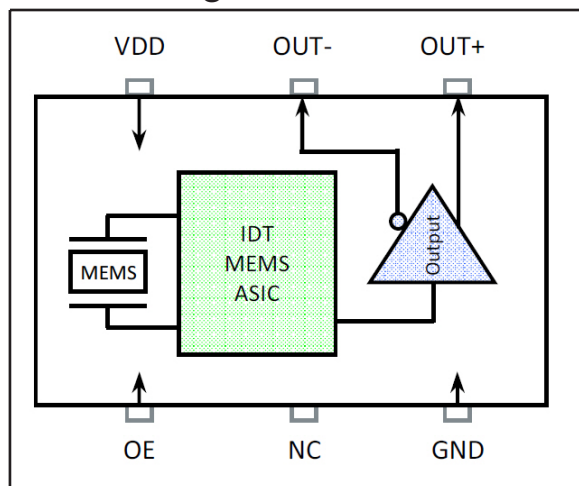
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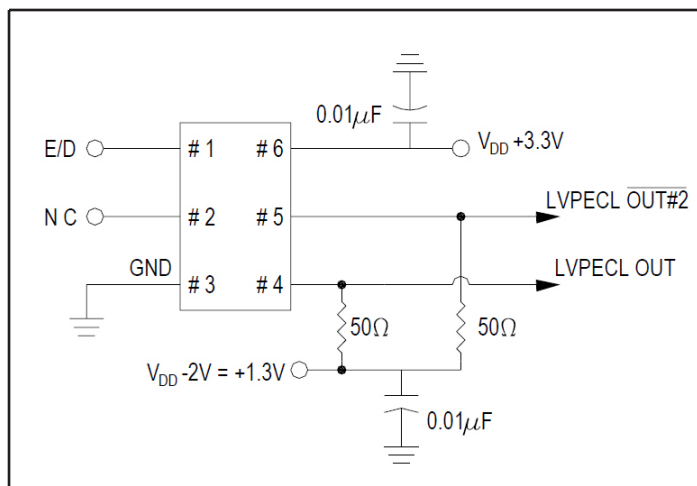
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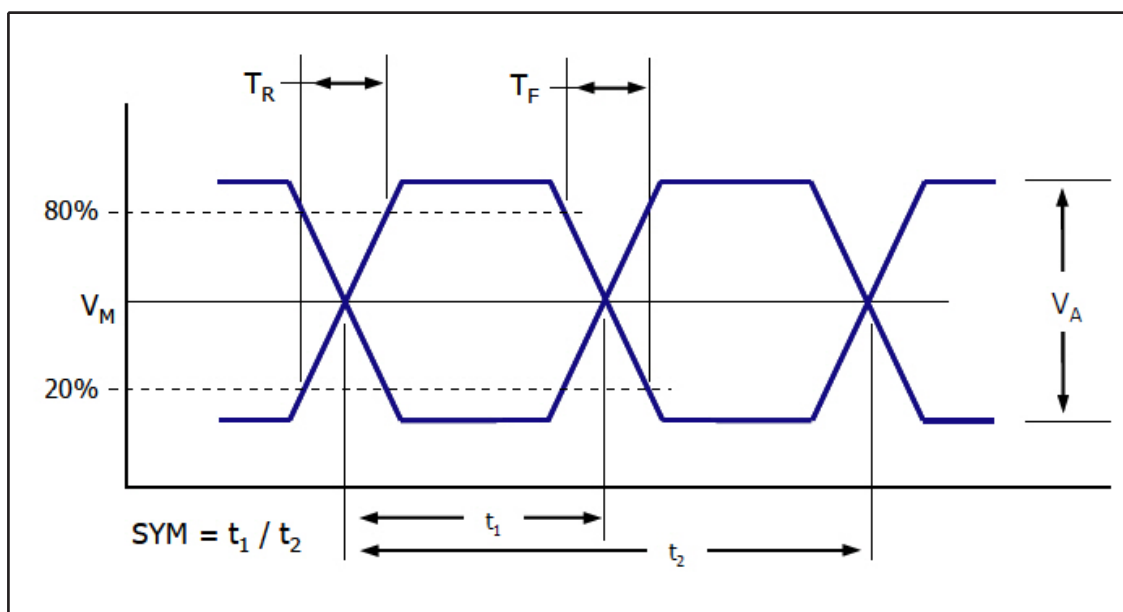
Block Diagram



Recommended Circuit



Waveform Characteristics



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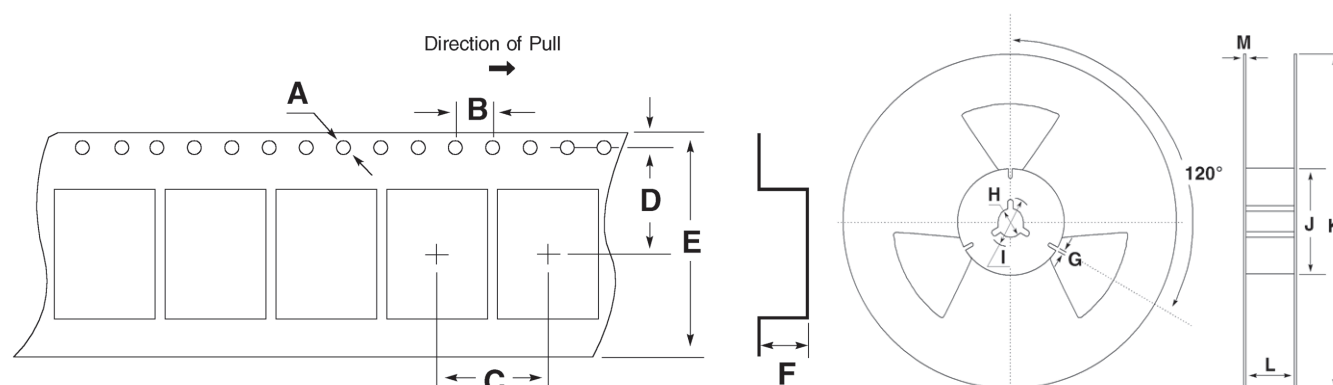
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• TAPE SPECIFICATIONS (millimeters)					
A	B	C	D	E	F
Ø1.5	4.0	8.0	7.5	16.0	1.1

• REEL SPECIFICATIONS (millimeters)						
G	H	I	J	K	L	M
2.0	Ø13	Ø21	Ø180	Ø332	18.4	2.0



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