

Programmable – High Performance Low Jitter SMD XO

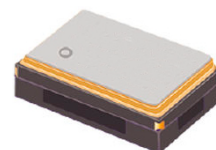
ASG2-LJ



ESD Sensitive



RoHS / RoHS II Compliant



2.5 x 2.0 x 1.0 mm

Moisture Sensitivity Level (MSL) – 1

FEATURES:

- LVCMOS, LVDS or LVPECL output option
- +2.5V or +3.3V operation
- -40°C to +85°C standard operating temperature range
- Ultra low RMS Jitter: 0.5ps typical, 1.0ps max (12kHz to 20MHz BW)
- Miniature size 2.5 x 2.0 x 1.0 mm Ceramic SMT Package
- Short lead time

APPLICATIONS:

- Networking
- SONET/SDH
- WiMax / WLAN
- Computing
- Phase Locked Loops
- Direct Digital Synthesis (DDS)
- DSL/ADSL
- Base Terminal Stations

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Operating Temperature		-40		+85	°C	
Storage Temperature		-55		+125	°C	
Overall Frequency Stability		-50		+50	ppm	See Note # 1
Initial Tolerance + Stability over operating temperature		-35.00		+35.00	ppm	
Supply Voltage (V _{dd})	V _{dd} = 3.3V	3.135	3.300	3.465	V	
	V _{dd} = 2.5V	2.375	2.500	2.625	V	
Enable/Disable Function :		"1" (V _{IH} ≥ 0.7*V _{dd}) or Open: Oscillation "0" (V _{IL} < 0.3*V _{dd}) : High Z				
Phase jitter RMS (12kHz to 20MHz BW)			0.5	1	ps	

Note #1: Inclusive of initial tolerance at 25°C±3°C, operating temperature range, input voltage variation, load variation & 15 years aging at 25°C.

Key Electrical Specifications – LVCMOS

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		8		200	MHz	
Supply Current (I _{dd})				40	mA	
Output Logic Level	V _{OH}	0.9*V _{dd}			V	I=±6mA
	V _{OL}			0.1*V _{dd}	V	
Rise Time	T _r			3	ns	10% to 90%
Fall Time	T _f			3	ns	
Duty Cycle		48	50	52	%	
Output Load				15	pF	

Key Electrical Specifications – LVDS

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		8		1500	MHz	
Supply Current (I _{dd})				40	mA	Freq. dependent
Differential Output Voltage Swing			350		mV	
Duty Cycle		45		55	%	@1.25V
Rise Time	T _r			600	ps	RL=100Ω/CL=10pF
Fall Time	T _f			600		

Key Electrical Specifications – LVPECL

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		8		1500	MHz	
Supply Current (I _{dd})				65	mA	Freq. dependent
Output Logic Level	V _{OH}	V _{dd} - 1.025			V	50Ω nominal load
	V _{OL}			V _{dd} - 1.62	V	
Duty Cycle		45		55	%	@V _{dd} -1.3V
Rise Time	T _r			600	ps	20% to 80%
Fall Time	T _f			600		

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Revised: 07.01.14

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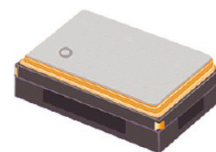
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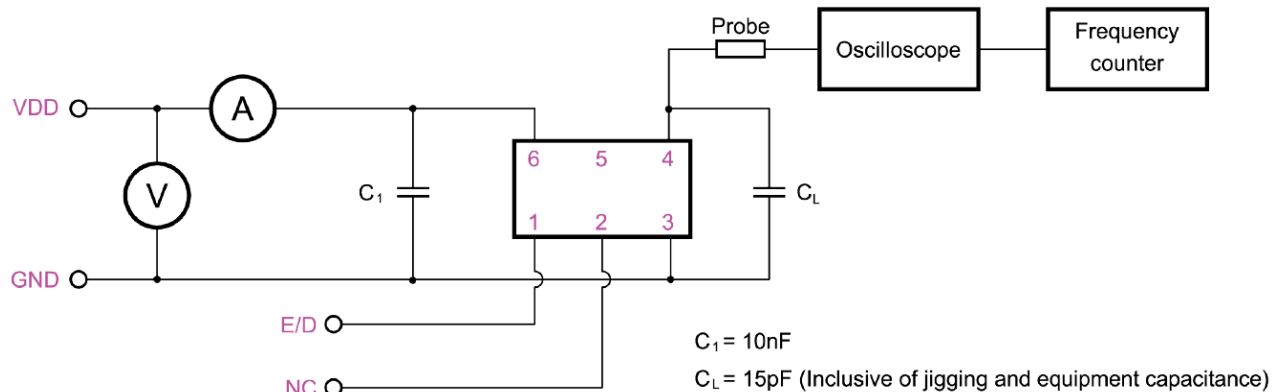
RoHS / RoHS II Compliant



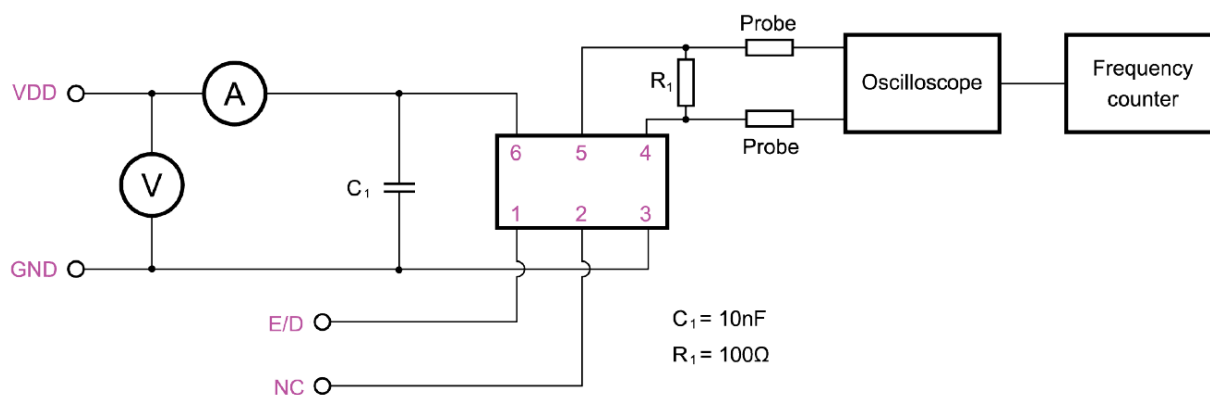
2.5 x 2.0 x 1.0 mm

TEST CIRCUIT

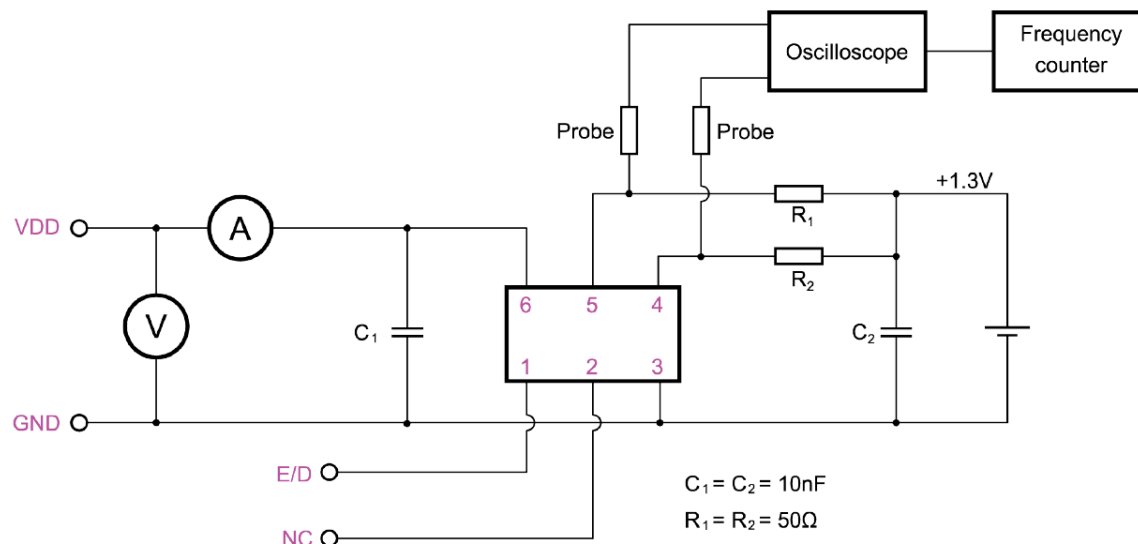
LVC MOS Output:



LVDS Output:



LVPECL Output:



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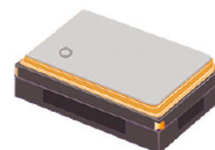
ASG2-LJ



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2.5 x 2.0 x 1.0 mm

OPTIONS & PART IDENTIFICATION:

ASG2 - LJ - MHz - -

Frequency

See Table below for available frequencies

Configuration Code

See Table below for available configurations

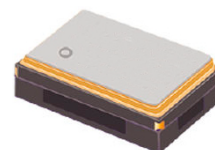
Packaging

Blank = Bulk
T = Tape & Reel(3k/reel)

Table of Available Configurations

Abracon P/N	Frequency (MHz)	Freq. Stability Over Temperature (ppm)	Operating Temperature (°C)	Supply Voltage (V)	Output Type
ASG2-LJ-100.000MHz-513259	100	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-125.000MHz-513280	125	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-125.000MHz-513281	125	±35	-40 to +85	2.5	LVPECL
ASG2-LJ-156.250MHz-513282	156.25	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-156.250MHz-513283	156.25	±35	-40 to +85	2.5	LVPECL
ASG2-LJ-200.000MHz-513284	200	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-212.500MHz-513285	212.5	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-250.000MHz-513286	250	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-312.500MHz-513287	312.5	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-400.000MHz-513288	400	±35	-40 to +85	3.3	LVPECL





OPTIONS & PART IDENTIFICATION:

Table of Available Configurations (continued)

Abrakon P/N	Frequency (MHz)	Freq. Stability Over Temperature (ppm)	Operating Temperature (°C)	Supply Voltage (V)	Output Type
ASG2-LJ-1000.000MHz-513289	1000	±35	-40 to +85	3.3	LVPECL
ASG2-LJ-100.000MHz-513290	100	±35	-40 to +85	2.5	LVDS
ASG2-LJ-125.000MHz-513291	125	±35	-40 to +85	2.5	LVDS
ASG2-LJ-156.250MHz-513292	156.25	±35	-40 to +85	2.5	LVDS
ASG2-LJ-200.000MHz-513293	200	±35	-40 to +85	2.5	LVDS
ASG2-LJ-212.500MHz-513294	212.5	±35	-40 to +85	2.5	LVDS
ASG2-LJ-250.000MHz-513295	250	±35	-40 to +85	2.5	LVDS
ASG2-LJ-312.500MHz-513296	312.5	±35	-40 to +85	2.5	LVDS
ASG2-LJ-400.000MHz-513297	400	±35	-40 to +85	2.5	LVDS
ASG2-LJ-100.000MHz-513298	100	±35	-40 to +85	2.5	LVC MOS
ASG2-LJ-125.000MHz-513299	125	±35	-40 to +85	2.5	LVC MOS
ASG2-LJ-156.250MHz-513300	156.25	±35	-40 to +85	2.5	LVC MOS
ASG2-LJ-200.000MHz-513301	200	±35	-40 to +85	2.5	LVC MOS

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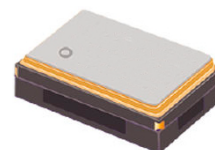
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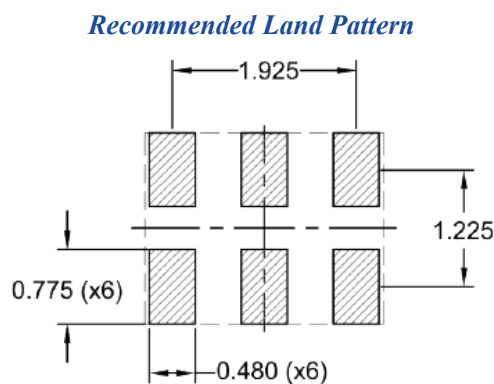
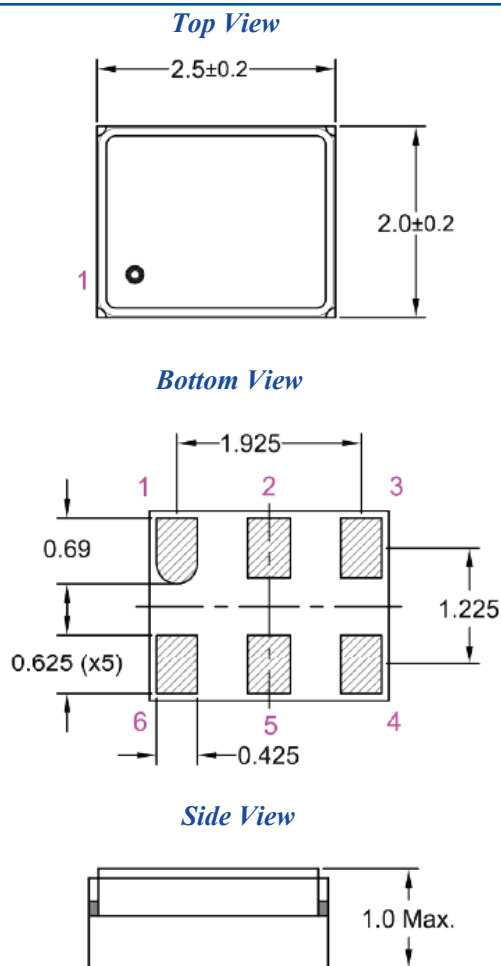


RoHS / RoHS II Compliant



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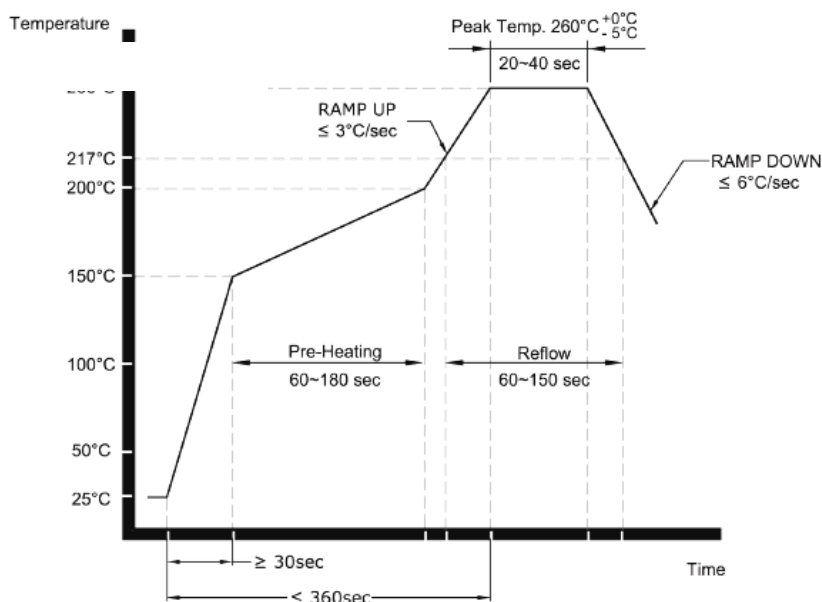
OUTLINE DIMENSION:



Pin #	Pin Description	
	LVC MOS	LVDS/LVPECL
1	Output Enable (OE)	
2	No Connect (N/C)	
3	GND	
4	RF Output	
5	No Connect (N/C)	Complimentary Output
6	Vdd	

Dimensions: mm

RECOMMENDED REFLOW PROFILE



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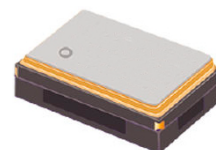
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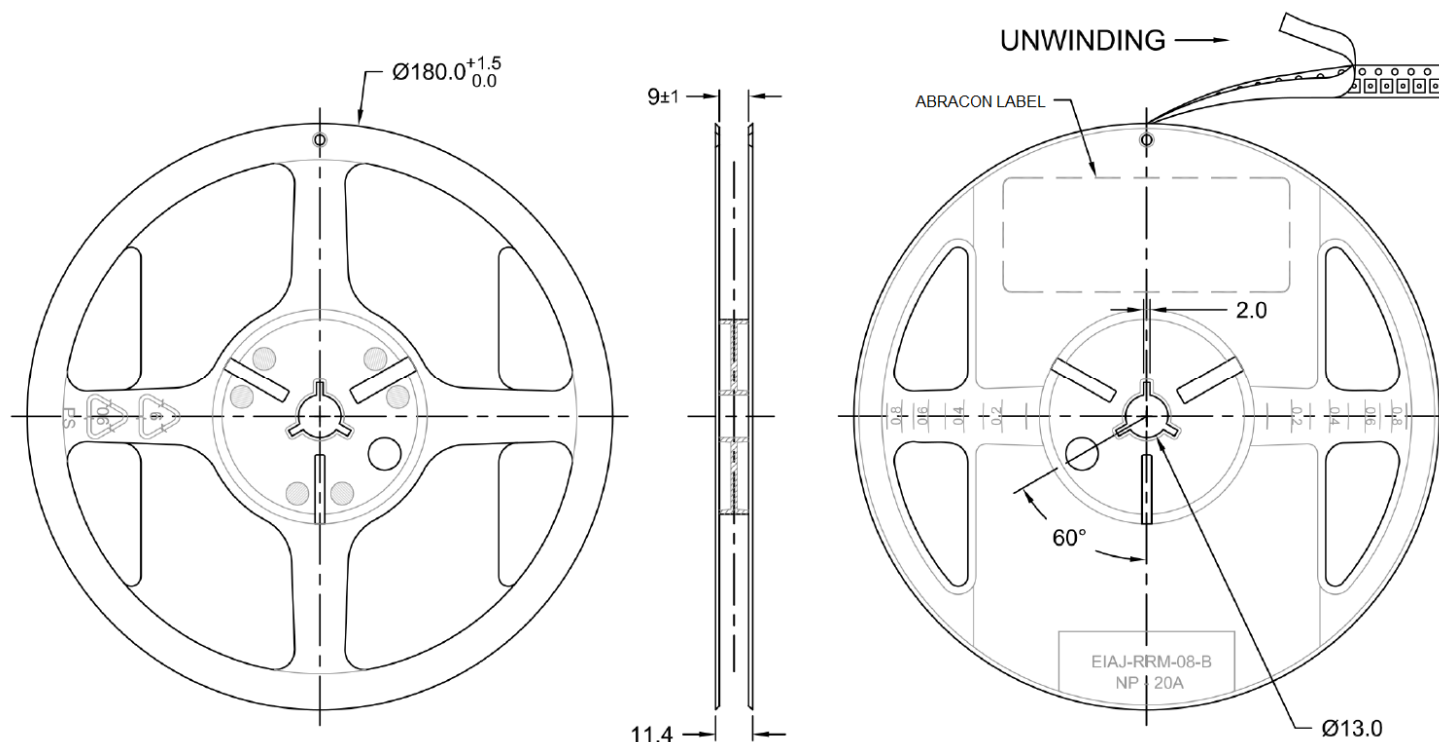
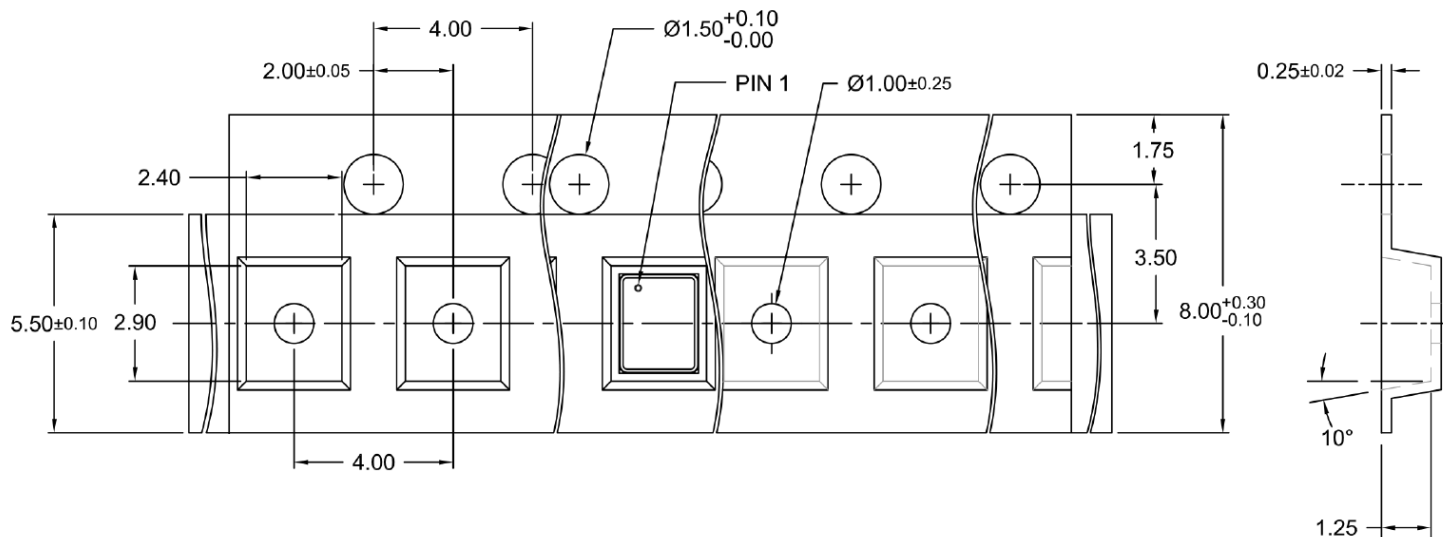
Pb | RoHS / RoHS II Compliant



2.5 x 2.0 x 1.0 mm

TAPE & REEL:

T= Tape and reel (3,000pcs/reel)



Dimensions: mm

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