

2.5V CMOS Compatible SMD Crystal Oscillator

ASE2

3.2 x 2.5 x 1.2mm

ASE2 SERIES



ESD Sensitive



RoHS / RoHS II Compliant

Moisture Sensitivity Level (MSL) –1

FEATURES:

- Compact and low in height at 1.2mm
- Low current consumption
2mA typ. for 19.2MHz
- Tri state function
- Suitable for RoHS reflow
- Tight stability option ± 20 ppm for -40 to $+85^{\circ}\text{C}$
- Seam sealed package assures high reliability

APPLICATIONS:

- CCD clock for VTR camera
- Equipment connected to PC or PC cards
- Wireless communication

STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	0.625		156.25	MHz	
Operating Temperature	-10		+70	$^{\circ}\text{C}$	STD (See options)
Storage Temperature	-55		+125	$^{\circ}\text{C}$	
Overall Frequency Stability	-100		+100	ppm	See options
Supply Voltage (Vdd)	+2.375	2.5	+2.625	V	
Supply Current (Idd)		2	8	mA	0.625 ~ 19.99 MHz
		3	8		20.00 ~ 31.99 MHz
		5	15		32.00 ~ 59.99 MHz
		12	25		60.00 ~ 125.00 MHz
		15	25		125.01 ~ 156.25MHz
Symmetry @ 1/2Vdd	45		55	%	0.625 ~ 89.999 MHz
	40		60		90.00 ~ 156.25 MHz
Rise and Fall Time (Tr/Tf)		3	5	ns	0.625 ~ 19.99 MHz
		3	5		20.00 ~ 31.99 MHz
		3	5		32.00 ~ 59.99 MHz
		3	5		60.00 ~ 125.00 MHz
		3	5		125.01 ~ 156.25MHz
Output Load			15	pF	CMOS
Output Voltage (VOH)	0.9* Vdd			V	
Output Voltage (VOL)			0.1* Vdd	V	
Start-up Time		0.6	3	ms	0.625 ~ 19.99 MHz
		0.6	3		20.00 ~ 31.99 MHz
		0.6	3		32.00 ~ 59.99 MHz
		1.3	2		60.00 ~ 125.00 MHz
		1.3	2		125.01 ~ 156.25MHz
Tri-state function	"1" ($V_{IH} \geq 0.7 \cdot V_{dd}$) or Open: Oscillation; "0" ($V_{IL} < 0.3 \cdot V_{dd}$): Hi Z				
RMS Jitter:		2	5	ps	
Aging at 25°C (first year)	-5		+5	ppm	
Stand-by Current:			10	μA	

OPTIONS & PART IDENTIFICATION: (Left blank if standard)

ASE2 - MHz - - -

Frequency in MHz
e.g. 0.625MHz
24.576MHz
14.31818MHz
26.000MHz
156.25MHz

Operating Temp.
I: $0^{\circ}\text{C} \sim +50^{\circ}\text{C}$
D: $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$
E: $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$
F: $-30^{\circ}\text{C} \sim +70^{\circ}\text{C}$
N: $-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$
L: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Contact ABRACON for wider temperature range.

Overall Freq. Stability
J(*): ± 20 ppm
R: ± 25 ppm
K: ± 30 ppm
H: ± 35 ppm
B: ± 40 ppm
C: ± 50 ppm

*: Temp options I, D, E, and -10°C to $+70^{\circ}\text{C}$ only

Packaging
Blank: Bulk
T: 1000pcs/Reel

ABRACON IS
ISO9001:2008
CERTIFIED



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Revised: 08.06.14

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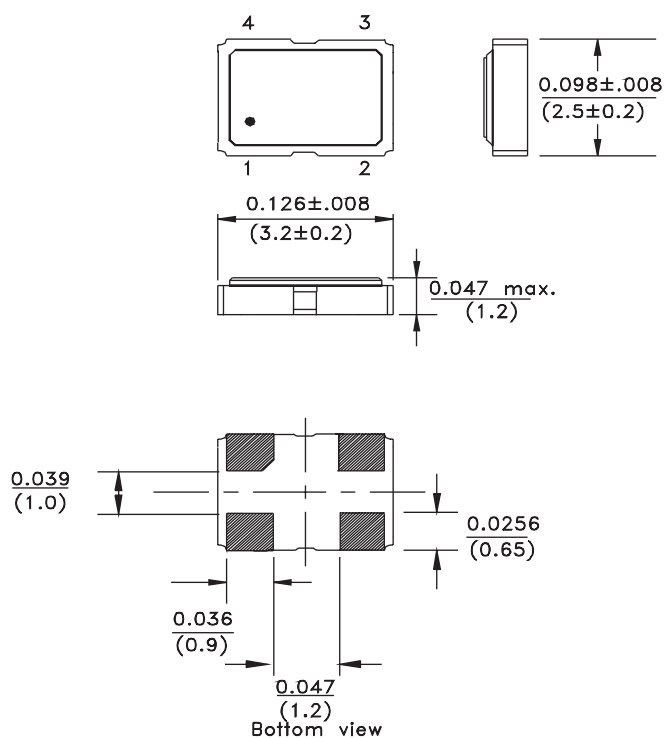
ASE2 SERIES

 RoHS / RoHS II Compliant

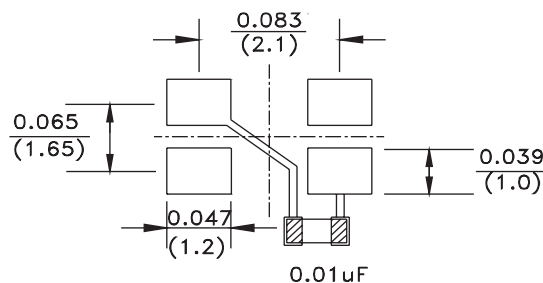


3.2 x 2.5 x 1.2mm

OUTLINE DRAWING:



Recommended land pattern



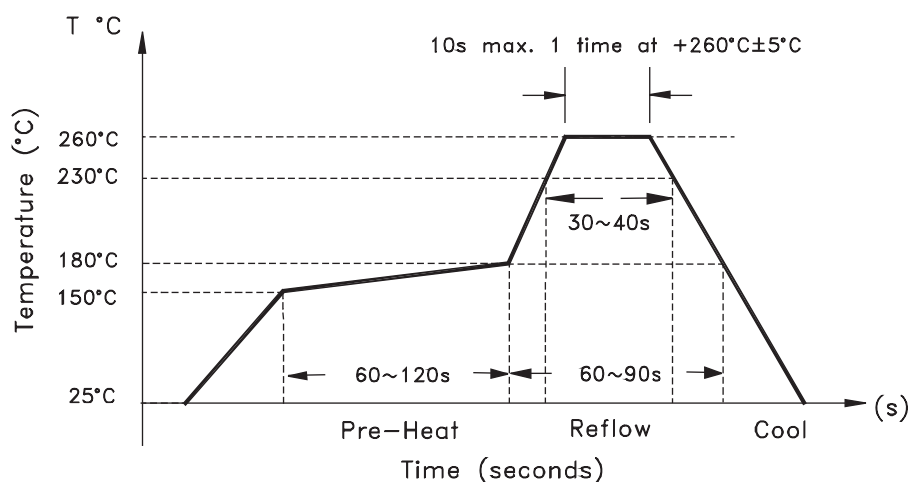
Note:

1. The outline package configuration varies with frequency range. Electrical properties, pin configuration, and land pattern are the same.
2. Recommend using an approximately 0.01µF bypass capacitor between Pin 2 and 4.

PIN	FUNCTION
1	Tri-state
2	GND/Case
3	Output
4	Vdd

Dimensions: Inches (mm)

REFLOW PROFILE



The image shows a square integrated circuit (IC) labeled 'ASE2' on the left. To its right is a pinout diagram for a 16-pin package. The pins are arranged in two rows of eight. The top row is labeled 1 through 8 from left to right, and the bottom row is labeled 9 through 16 from left to right. The pins are represented by small squares, with the top row pins being yellow and the bottom row pins being black.

 **RoHS / RoHS II Compliant**

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