1/6-Inch 720P High-Definition (HD) System-On-A-Chip (SOC) Digital Image Sensor Chip Scale Package

MT9M114 Data Sheet Addendum

For more information, refer to the data sheet on Aptina's Web site: www.aptina.com

Introduction

This document supplements Aptina's MT9M114 data sheet with the addition of a CSP option. The standard CMOS digital image sensor data sheet should be referenced for a complete description of this 1/6-inch HD image sensor. The specifications contained in this addendum supersede the specifications listed in the referenced CMOS digital image sensor data sheet.

Addendum Changes

This addendum describes the new package option for the CSP package.

Table 1: Ordering Information

Part Number	Description
MT9M114EBLSTC5 AS	55-Pin CSP Alpha sample
MT9M114EBLSTC5 ES	55-Pin CSP Engineering sample
MT9M114EBLSTC5	55-Pin CSP MP

Package Dimensions

Table 2: Package Dimensions

Parameter	Symbol	Nominal	Min	Max	Nominal	Min	Max
		Millimeters			Inches		
Package Body Dimension X	A	4.64815	4.62315	4.7315	0.18300	0.18201	0.18398
Package Body Dimension Y	B	3.84775	3.82275	3.87275	0.15149	0.15050	0.15247
Package Height	C	0.680	0.635	0.725	0.02677	0.02500	0.02854
Cavity height (glass to pixel distance)	C4	0.041	0.037	0.045	0.00161	0.00146	0.00177
Glass Thickness	C3	0.400	0.390	0.410	0.01575	0.01535	0.01614
Package Body Thickness	C2	0.570	0.535	0.605	0.02244	0.02106	0.02382
Ball Height	C1	0.110	0.090	0.130	0.00433	0.00354	0.00512
Ball Diameter	D	0.220	0.200	0.240	0.0086	0.00787	0.00945
Total Ball Count	N	55					
Ball Count X axis	N1	8					
Ball Count Yaxis	N2	7					
UBM	U	0.240	0.230	0.250	0.009449	0.00906	0.00984
Pins Pitch X axis	J1	0.520	0.510	0.530	0.020472	0.02008	0.02087
Pins Pitch Y axis	J2	0.520	0.510	0.530	0.020472	0.02008	0.02087
BGA ball center to package center offset in X-direction	X	0	–0.025	0.025	0	–0.00098	0.00098

Aptina reserves the right to change products or specifications without notice.
©2009 Aptina Imaging Corporation. All rights reserved.

‡Products and specifications discussed herein are for evaluation and reference purposes only and are subject to change by Aptina without notice. Products are only warranted by Aptina to meet Aptina's production data sheet specifications.

Table 2: Package Dimensions (continued)

Parameter	Symbol	Nominal	Min	Max	Nominal	Min	Max
		Millimeters			Inches		
BGA ball center to package center offset in Y-direction	Y	0	–0.025	0.025	0	–0.00098	0.00098
Edge to Ball Center Distance along X	S1	0.504	0.474	0.534	0.01985	0.01866	0.02103
Edge to Ball Center Distance along Y	S2	0.364	0.334	0.394	0.01433	0.01314	0.01551

Figure 1: Package Mechanical Drawing

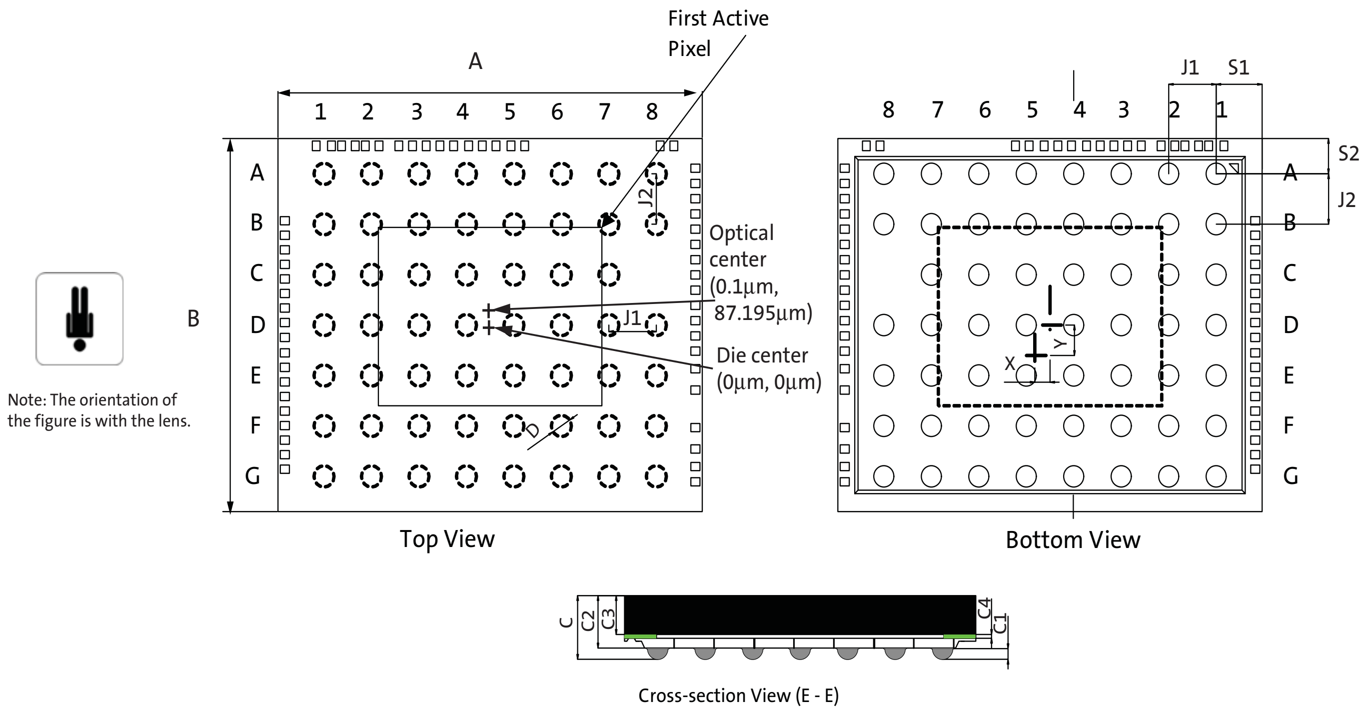

Table 3: Ball Matrix

	1	2	3	4	5	6	7	8
A	VAA	Reserved[1]	DOUT[6]	DOUT[4]	DOUT[2]	VDD	DOUT[1]	VDD
B	GND	VAA	VDD_IO	DOUT[5]	DOUT[3]	GND	DOUT[0]	VDD_IO
C	VDD	OE_BAR	AGND	GND	VDD_IO	FV	LV	
D	CONFIG	SCLK	SDATA	DOUT[7]	Reserved[1]	DOUT_LSB1	GND	VDD
E	VDD_IO	CHAIN	Reserved[1]	SADDR	RESET_BAR	DOUT_LSB0	GND	VDD_PHY
F	EXTCLK	PIXCLK	GND	TRST_BAR	DATA_N	DATA_P	CLK_P	CLK_N
G	VDD	FLASH	VDD	PGND[2]	PGND[2]	VDD_PLL	GND_PLL	GND_PLL

Notes:
1. Do not use.
2. To be used for EMI shielding.

Aptina eserves the right to change products or specifications without notice.
©2009 Aptina Imaging Corporation All rights reserved.

Revision History

Rev. C 3/2/10

- Updated Table 2, "Package Dimensions," on page 1
- Updated Figure 1: "Package Mechanical Drawing," on page 2

Rev. B 12/8/09

- Updated Figure 1: "Package Mechanical Drawing," on page 2
- Added CHAIN to column 2, row E in Table 3, "Ball Matrix," on page 2

Rev. A 10/19/09

- Initial release

10 Eunos Road 8 13-40, Singapore Post Center, Singapore 408600 prodmktg@aptina.com www.aptina.com
Aptina, Aptina Imaging, DigitalClarity, and the Aptina logo are the property of Aptina Imaging Corporation
All other trademarks are the property of their respective owners.
Advance: This data sheet contains initial descriptions of products still under development.

Aptina reserves the right to change products or specifications without notice.
©2009 Aptina Imaging Corporation All rights reserved.