



Module Dimensions, Mechanical Drawings, and BGA Layout

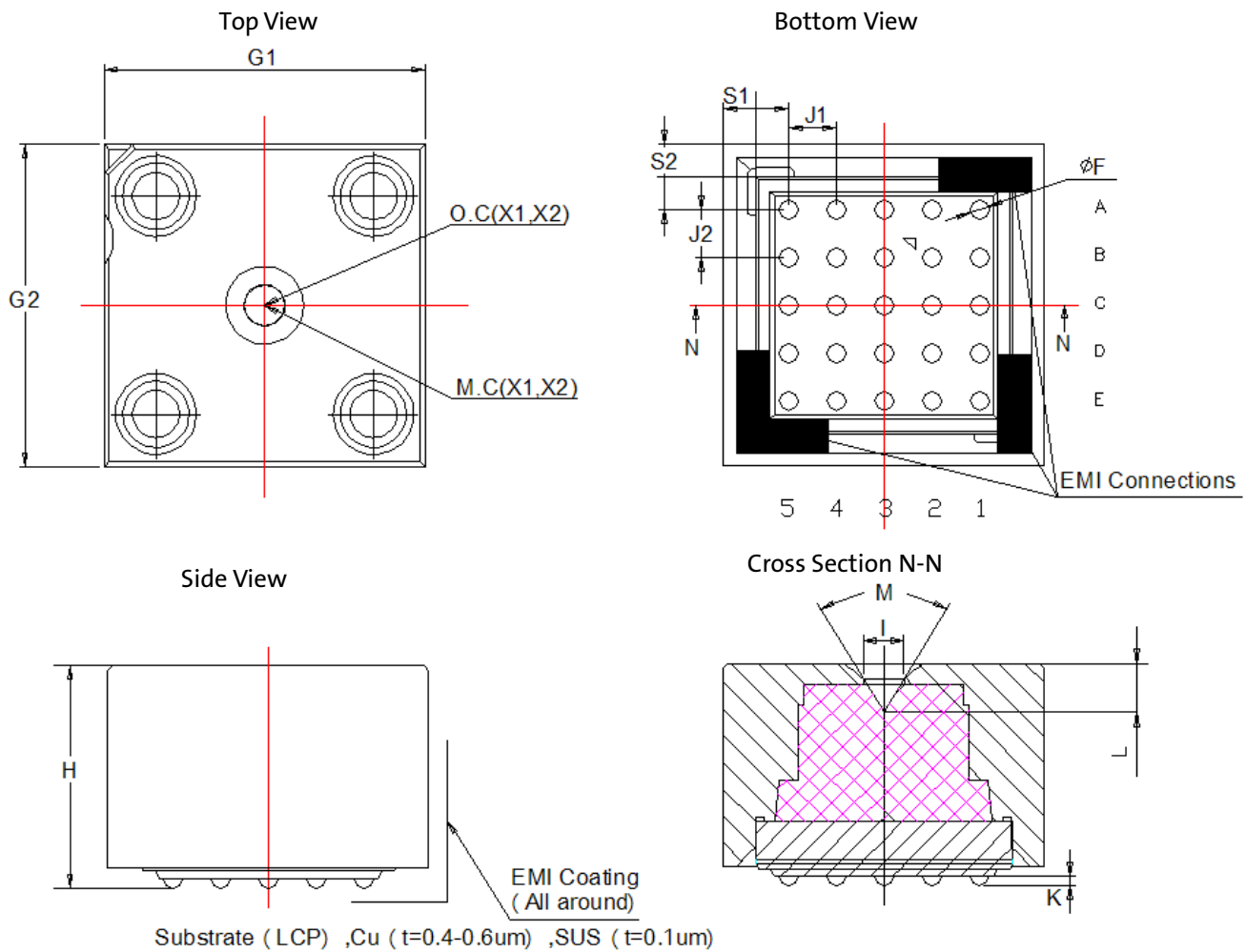
Table 3: Module Dimensions

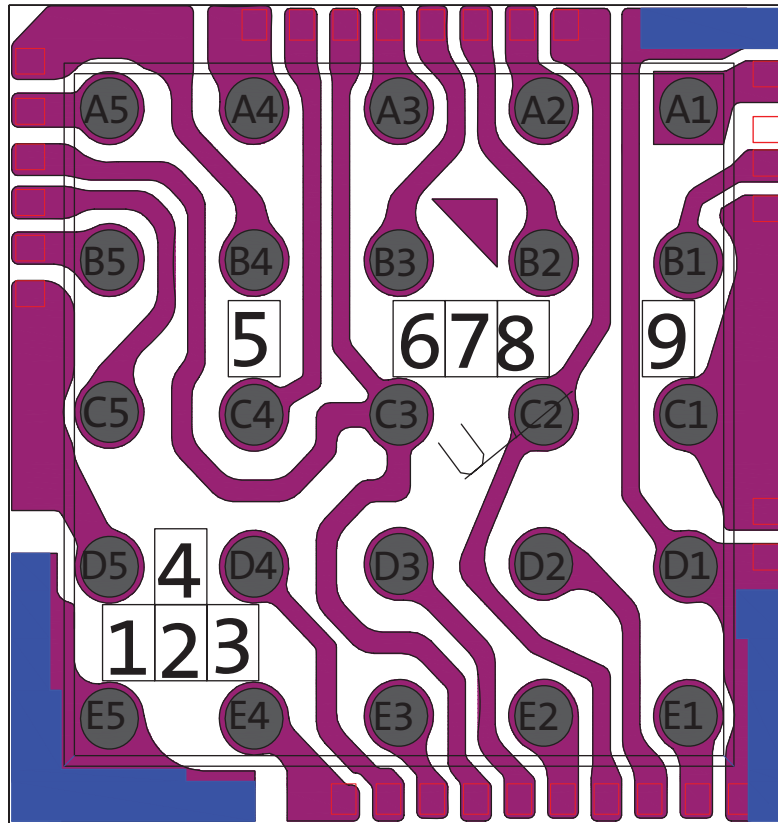
Parameter	Symbol	Nominal	Min	Max	Nominal	Min	Max
		Millimeters			Inches		
Housing Body Dimension X	G1	3.40000	3.35000	3.45000	0.13386	0.13190	0.13583
Housing Body Dimension Y	G2	3.40000	3.37000	3.43000	0.13386	0.13268	0.13505
WLC Height	H	2.35000	2.25000	2.45000	0.09252	0.08859	0.09646
Mechanical clearance cone location	L	NA	NA	0.52300	NA	NA	0.02059
Housing Aperture	I	0.43700	0.41700	0.43700	0.01721	0.01642	0.01721
Housing Edge to pin Center X	S1	0.70000	0.67000	0.73000	0.02756	0.02638	0.02874
Housing Edge to pin Center Y	S2	0.70000	0.67000	0.73000	0.02756	0.02638	0.02874
Pin Pitch X axis	J1	0.50000	0.49000	0.51000	0.01969	0.01929	0.02008
Pin Pitch Y axis	J2	0.50000	0.49000	0.51000	0.01969	0.01929	0.02008
Optical center coordinate(X1,Y1)	O.C	(0,0)	NA	NA	(0,0)	NA	NA
Mechanical center coordinate(X2,Y2)	M.C	(0,0)	NA	NA	(0,0)	NA	NA
Ball Diameter	F	0.20000	0.17000	0.23000	0.00787	0.00669	0.00906
Ball Height	K	0.10000	0.08000	0.12000	0.00394	0.00315	0.00472
		Degree			Minute		
Mechanical clearance cone angle	M	NA	NA	65	NA	NA	3900
CSP Rotation to housing		0	-2.5	2.5	0	-150	150



MT9V114M02: 1/13-Inch SOC CMOS Digital Image Sensor Reflowable Camera Module

Figure 2: Mechanical Drawings



**Figure 3: BGA Layout (Bottom View)**

- Notes:
1. The blue parts represent EMI PAD.
 2. Laser Mark 1234 for CSP assembly wafer ID and 56789 for SOC390 EM ID.

Table 4: Ball Matrix

	1	2	3	4	5
A	VPP	STANDBY	DOUT0	DOUT2	DOUT4
B	AGND	PIXCLK	GND	DOUT3	GND
C	VAA	VDD	VDD_IO	DOUT1	DOUT5
D	GND	LV	DOUT7	SCLK	VDD
E	FV	CLK	DOUT6	SDATA	GND

Conclusion

For more information on the CSP BGA, refer to the MT9V114 CSP data sheet. For the reflow profile, refer to the Aptina's reflow document.