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NTSC/PAL Image Sensor

BF3063

Design guide

Revision History

Revised. Date	Revision	Brief Description	Author	Proofread	Authorize



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1. 外围电路

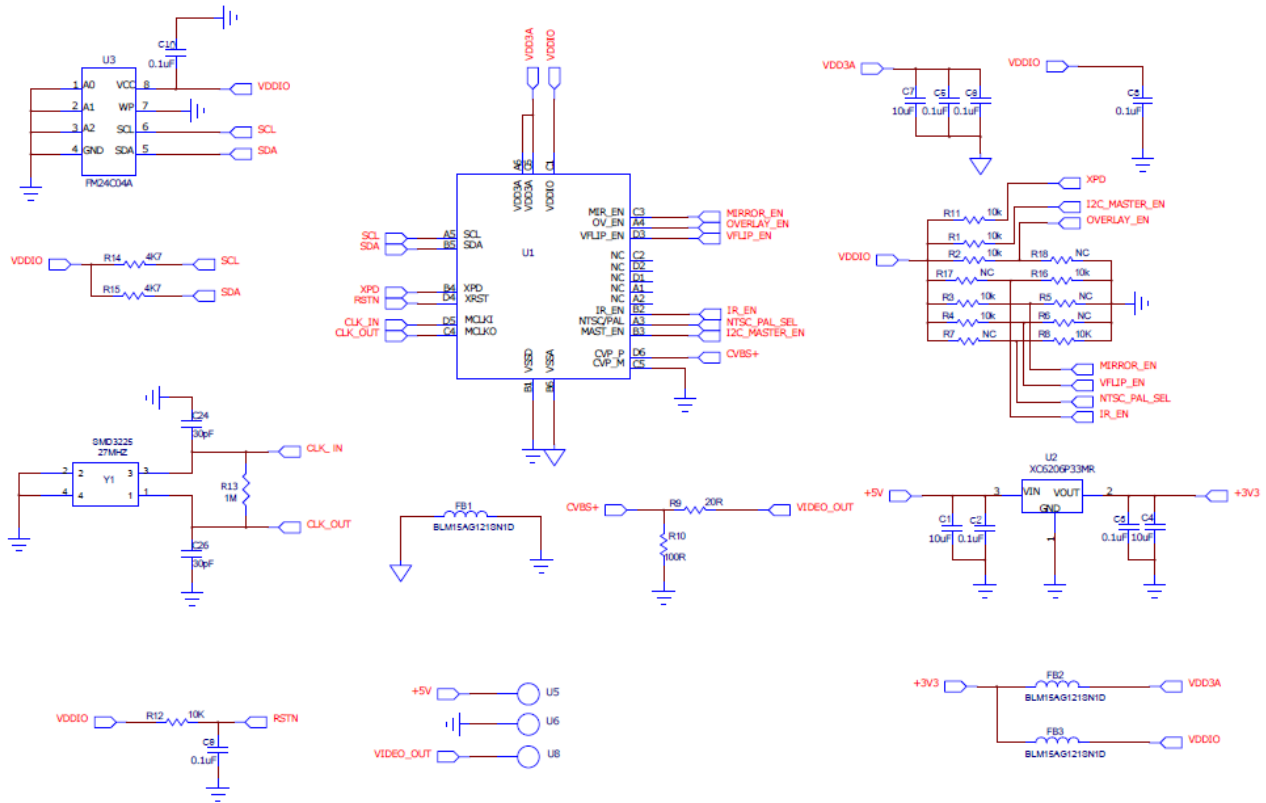


图 1-1 同轴电缆或 AV 视频线输出模式外围电路图（I2C Master Mode）

2. 外围参考电路设计说明

注：下面所述的电压值都为典型值，各电压的取值范围可参看 BF3063 CSP Datasheet

2.1 电源地设计

BF3063 芯片分两路电源： $VDDIO = 2.7V \sim 3.3V$ ， $VDD3A = 3.3V$ 。

设计模组时电源方案应注意：

应尽量保证 $VDD3A$ 电源质量。

2.2 外围应用注意事项

电源线走线一般应大于等于0.5mm，最小不应该小于0.254mm；供给芯片**VDD3A**的电源线要尽可能短；并且在每路电源供给芯片靠近引脚处需要分别放一0.1uF 滤波电容。

设计地线时，分两路网络处理， $VSSA$ （AGND）和**VSSD**(DGND)要分开接；

容值为0.1uf 的贴片电容是必需的，省略会影响图像质量；

各个电容尽可能靠近相应的引脚。并且走线应注意先经过滤波电容后再进sensor；滤波电容是推荐的，省略可能会影响图像质量；

电源走线时，不管采用哪种供电方案都建议单独把**VDD3A** 与其余的3.3V电压分开走线；

$RSTN$ （复位）、 $VDD3A$ 的走线也应该尽量远离时钟线；

$I2C$ 走线时必须加4.7K (4.7K 是推荐值) 的上拉电阻。

芯片的NC 引脚在布线时直接悬空不接；

P_N_S 引脚为 PAL、NTSC 模式选择端口；

3. BF3063 CHIP (CSP) 说明

3.1. BF3063 CSP 封装

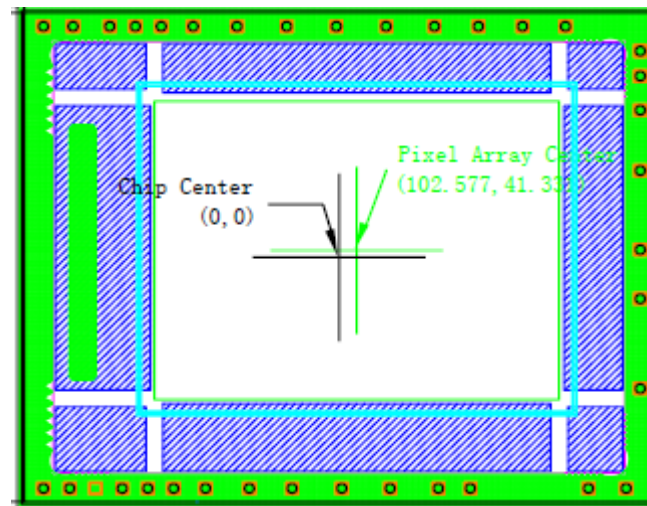


图 3-1 CSP 封装图(单位: um)

	6	5	4	3	2	1
A	VDD3A	SCL	OV_EN	NTSC/PAL	NC	NC
B	VSSA	SDA	XPD	MAST_EN	IR_EN	VSSD
C	VDD3A	CVP_M	MCLKO	MIR_EN	NC	VDDIO
D	CVP_P	MCLKI	XRST	VFLIP_EN	NC	NC

表 3-1 CSP 封装点阵表

3.2. CSP 封装管脚说明

PIN	Name	Pin Type	Function/Description
A1	NC	NC	NC
A2	NC	NC	NC
A3	NTSC/PAL	Input	NTSC_PAL select
A4	OV_EN	Input	Overlay_en
A5	SCL	INOUT	SCCB serial interface data I/O
A6	VDD3A	Power	Analog power supply(3.3V)
B1	VSSD	Power	Digital and I/O ground
B2	IR_EN	Input	IR_en
B3	MAST_EN	Input	I2C_Master_en
B4	XPD	Input	Power Down 1: Normal mode;0: Power down mode
B5	SDA	INOUT	SCCB serial interface clock I/O
B6	VSSA	Power	Analog ground
C1	VDDIO	Power	I/O and Digital power(2.7~3.3V)
C2	NC	NC	NC
C3	MIR_EN	Input	Mirror_en
C4	MCLKO	Output	Oscillator clock output
C5	CVP_M	Output	Composite video negative output
C6	VDD3A	Power	Analog power supply(3.3V)
D1	NC	NC	NC
D2	NC	NC	NC
D3	VFLIP_EN	Input	Vflip_en
D4	XRST	Input	Reset 1: Normal;0: chip reset
D5	MCLKI	Input	System clock input
D6	CVP_P	Output	Composite video active output

3.3. CSP 封装尺寸图

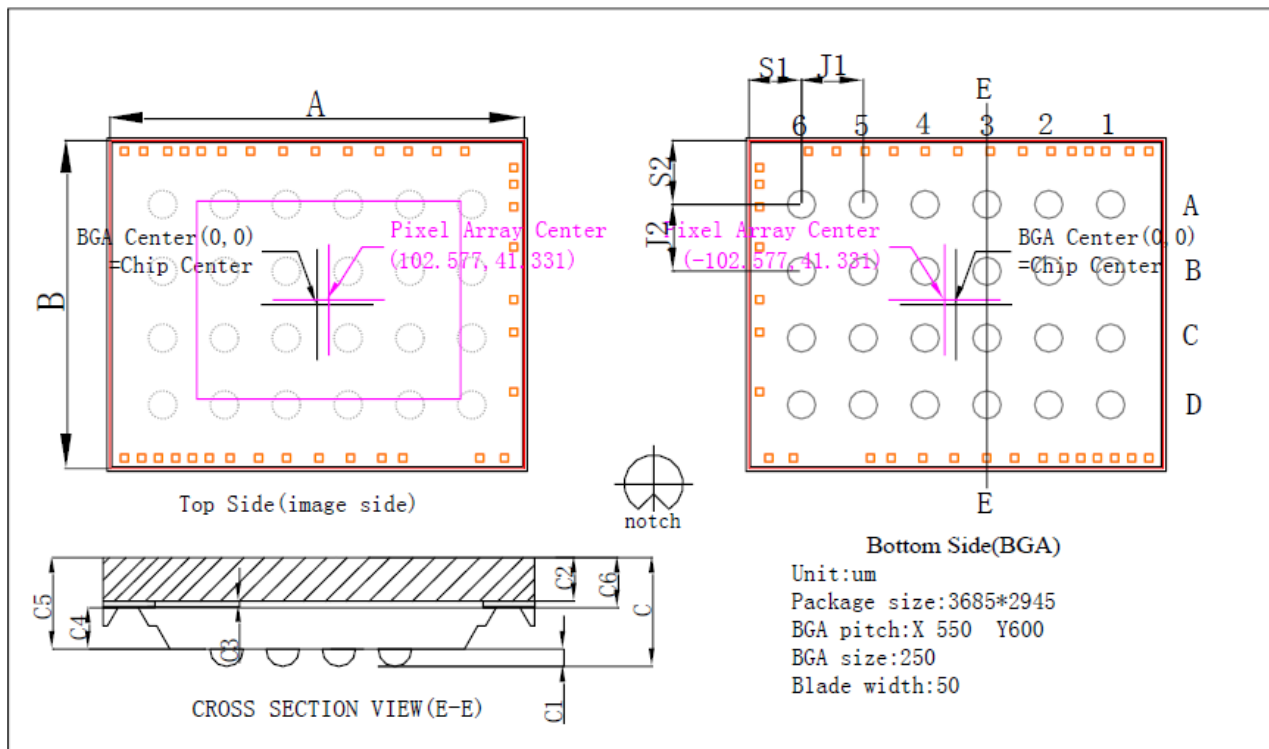
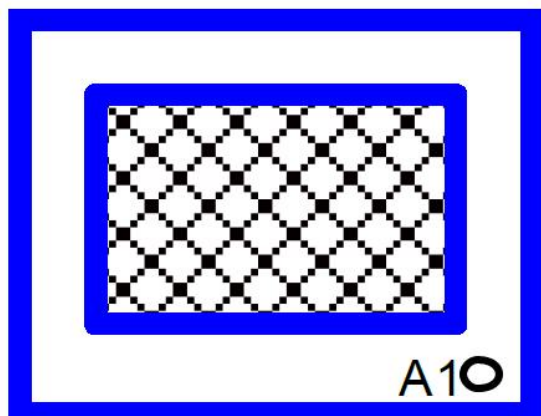


图 3-2 封装尺寸图

封装说明

描述	符号	典型值	最小值	最大值
		mm		
封装体 X 向尺寸	A	3.685	3.660	3.710
封装体 Y 向尺寸	B	2.945	2.920	2.970
封装高度	C	0.690	0.635	0.745
球高度	C1	0.120	0.090	0.150
玻璃层厚度	C2	0.400	0.390	0.410
封装体厚度	C5	0.570	0.535	0.605
球直径	D	0.250	0.220	0.280
管脚数量	N	24		
管脚 X 向间距	J1	0.550	0.540	0.560
管脚 Y 向间距	J2	0.600	0.590	0.610
X 向管脚中心到边缘距离	S1	0.4675	0.4375	0.4975
Y 向管脚中心到边缘距离	S2	0.5725	0.5425	0.6025

4. 成像方向



Top view



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