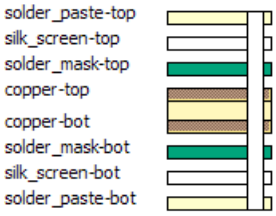
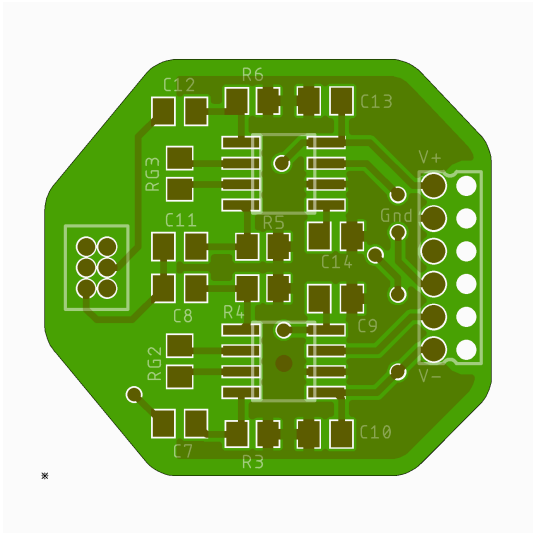
Sunstone Circuits
DFMplus Summary Report

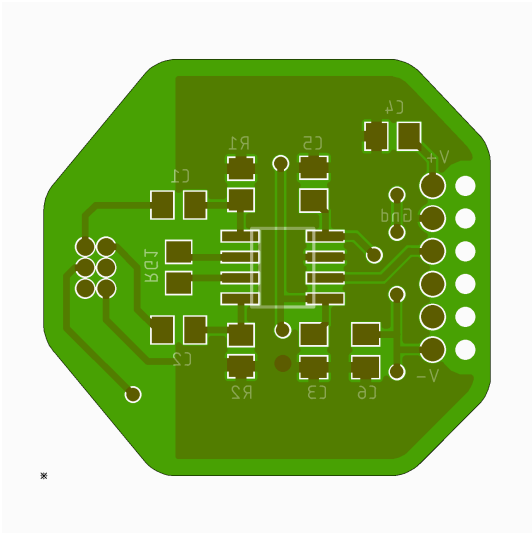
Job Name	Creation Time	New/Repeat Order
DFM076190-EMG_EEG_PreAmp_Oct_16_2018	2018-10-16 09:11:51	New Job
Part Number	**Revision**	
EMG_EEG_PreAmp	2	
Customer Name	Operator Name	
	lyndap	
Contact Name	**Contact Email**	
Job Class		
IPC Class 2		

Job View

Buildup	Top View	Bottom View







Comments

When not specified in a fabrication drawing or readme notes, Sunstone Circuits standard processes, materials and guidelines will be used.

Coordinates provided on DFM report us the lower left corner of the PCB as the “origin”.
A small target is placed at the origin on the top/bottom views.

**********DFM FINDINGS TO REVIEW **********

All DFM findings fall within standard manufacturing recommendations.
PCB can be ordered thru any of the quote and order services available at www.sunstone.com

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Triangle Color References:
RED = “Below standard processing” – Requires CUSTOM quote or NO BID, Details will be provided in “DFM Findings to Review”. (DFM analysis chart will show text in red)

YELLOW = “Slight modification necessary” – Findings fit into the Design Review (NRE): IF any modifications are needed, details would be provided “DFM Findings to Review”. (DFM analysis chart will show text in blue)

GREEN/GRAY = “Meets standard processing” Fit into any of the on line service offerings (DFM analysis chart will show text in green)

DFM Analysis will report findings of “N/A” when smallest reportable measurement exceeds maximum thresholds (exceeds requirements).

Annular Ring measurements are based on the estimated DRILLED HOLE size. Depending on surface finish, the hole will be drilled 4-6mil larger than finished hole to allow for plate down.

SMD Pad and Pitch measurements are for FYI only and the triangle references can be disregarded. If any adjustments are needed these would be specified in the “DFM Finding to Review”.

You can compare the service requirements for Sunstone Circuits at our comparison table available at: http://www.sunstone.com/pcb-manufacturing-capabilities

Visit our website at www.sunstone.com for more details on our on line services and to quote your PCB.

Help us improve our DFMplus service by completing this short on line survey.
http://tinyurl.com/kq764v8

Please let me know if you have any questions regarding this DFMplus report. I can be contacted at:
Lynda Postlethwaite
(800) 228-8198 x247
lyndap@sunstone.com

Please disregard “conflict” notes below. These notes are for internal use only. They do not affect manufacturing or DFMplus reporting.
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Validation Status: No Validation
Validation Report:

Job Info

Part Size (X,Y) inch 1.075 x 1	Thickness 62 mil	I/L Weight 0 Oz	O/L Weight 1 Oz
Copper Layers 2	Drill Layer 1	Rout Length 3.529 inch	
Soldermask Side Both	Soldermask Color Green	Soldermask Type Photo Image	
Silkscreen Side Both	Silkscreen Color White	Impedance Tolerance 0%	Board Bow And Twist Percentage 0%
Gold Thickness 0 mil	Material FR4 150 Tg	Finish Type Tin Lead	

NC Layer Info

Drill Type	Number Of Bits	Number Of Holes	Min Hole Size (mil)	Max Hole Size (mil)
PTH	3	21	16	41
NPTH	1	6	41	41
Via	0	0	N/A	N/A
Laser	0	0	N/A	N/A
Total:	**4**	**27**		

Total stacked holes count: **0**

Outer Layer Info

Top SMD Pads 44	Top SMD Min Pitch 50 mil	Bottom SMD Pads 26	Bottom SMD Min Pitch 50 mil
Top BGA Pads 0	Top BGA Min Pitch N/A	Bottom BGA Pads 0	Bottom BGA Min Pitch N/A
Top SMD Min Width 23.625 mil	Top BGA Min Width N/A	Bottom SMD Min Width 23.625 mil	Bottom BGA Min Width N/A
Has Top Drilled SMD/BGA No	Top Test Point Count 65	Has Bottom Drilled SMD/BGA No	Bottom Test Point Count 47
Gold Area Top 0 inch²	Expose Area Top 0.158 inch²	Gold Area Bottom 0 inch²	Expose Area Bottom 0.108 inch²
Gold Finger Count Top 0		Gold Finger Count Bottom 0	
Top Gold Fingers Typ Width N/A	Top Gold Fingers Typ Length N/A	Bottom Gold Fingers Typ Width N/A	Bottom Gold Fingers Typ Length N/A
Top Line to BGA Spacing N/A		Bot Line to BGA Spacing N/A	

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DFM Analysis

Layer	Minimal Spacing (mil)	Typical Spacing (mil)	Minimal AR (mil)	Typical AR (mil)	Minimal Line Width (mil)	Typical Line Width (mil)
copper-top	8.3 (# 7)	10 (# 124)	7.2 (# 20)	7.9 (# 20)	16 (# 35)	16 (# 35)
copper-bot	6 (# 87)	6 (# 87)	7.2 (# 20)	7.9 (# 20)	16 (# 30)	16 (# 30)
Summary	6		7.2		16	

Layer	Min PTH To Cu (mil)	Typ PTH To Cu (mil)
copper-top	16.2 (# 14)	16.2 (# 14)
copper-bot	13.2 (# 12)	16.2 (# 14)

Copper Layer Info

Layer	Copper Area (inch²)	Copper Usage (%)	Copper Weight [Base]	Copper Thickness [Final]
copper-top	0.44	46	0 Oz	0 mil
copper-bot	0.52	56	0 Oz	0 mil

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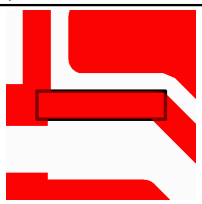
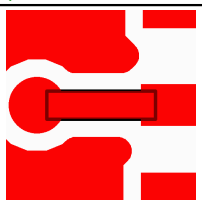
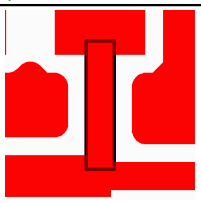
DFM Report

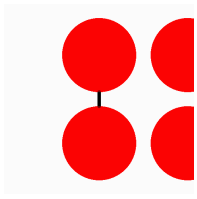
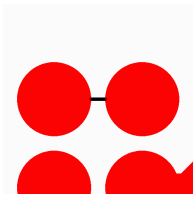
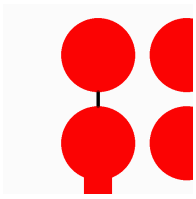
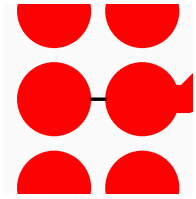
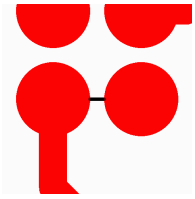
Legend: Below standard processing | Slight Modification necessary | Meets standard processing

copper-top

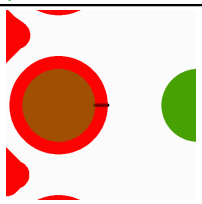
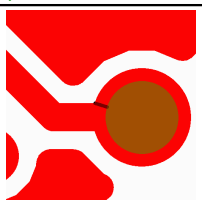
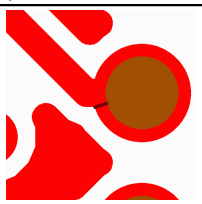
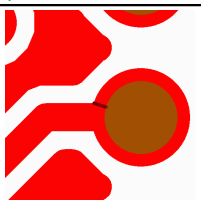
Lines

1) 16 mil	2) 16 mil	3) 16 mil	4) 16 mil	5) 16 mil
				
(0.599 ,0.779) inch	(0.834 ,0.748) inch	(0.751 ,0.8) inch	(0.611 ,0.35) inch	(0.714 ,0.84) inch

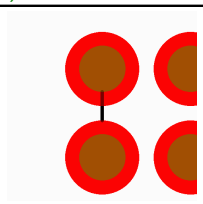
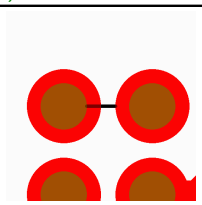
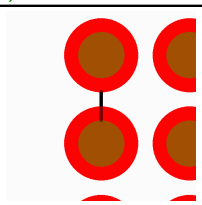
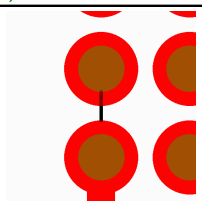
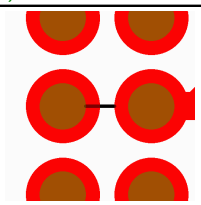
Spacing

1) 8.346 mil	2) 8.346 mil	3) 8.346 mil	4) 8.346 mil	5) 8.346 mil
				
(0.1 ,0.525) inch	(0.125 ,0.55) inch	(0.1 ,0.475) inch	(0.125 ,0.5) inch	(0.125 ,0.45) inch

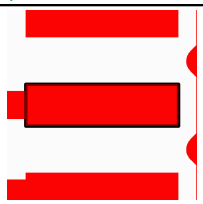
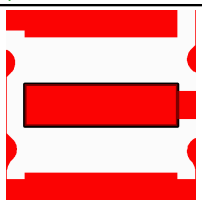
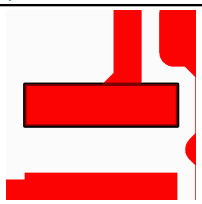
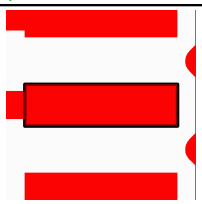
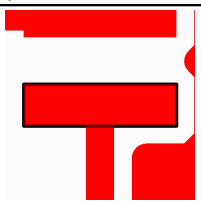
Annular Ring

1) 7.217 mil	2) 7.217 mil	3) 7.217 mil	4) 7.217 mil	5) 7.217 mil
				
(0.913 ,0.626) inch	(0.96 ,0.539) inch	(0.913 ,0.704) inch	(0.913 ,0.454) inch	(0.913 ,0.389) inch

PTH To Copper

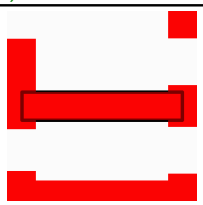
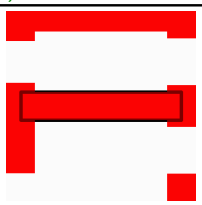
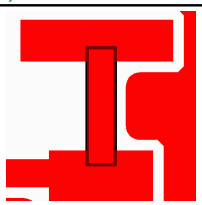
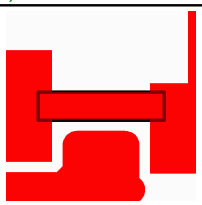
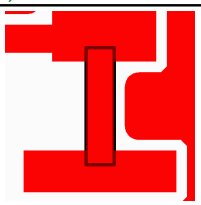
1) 16.175 mil	2) 16.175 mil	3) 16.175 mil	4) 16.175 mil	5) 16.175 mil
				
(0.1 ,0.529) inch	(0.121 ,0.55) inch	(0.1 ,0.521) inch	(0.1 ,0.479) inch	(0.121 ,0.5) inch

SMD Pads

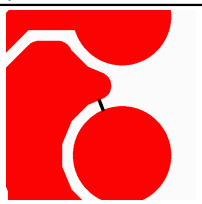
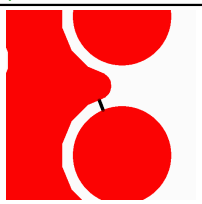
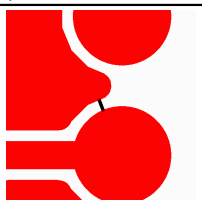
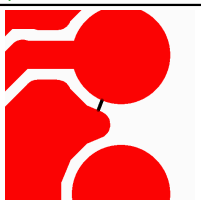
1) 23.625 x 62.991 mil	2) 23.625 x 62.991 mil	3) 23.625 x 62.991 mil	4) 23.625 x 62.991 mil	5) 23.625 x 62.991 mil
				
(0.473 ,0.3) inch	(0.677 ,0.3) inch	(0.473 ,0.35) inch	(0.473 ,0.25) inch	(0.473 ,0.2) inch

copper-bot

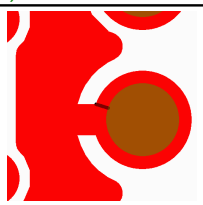
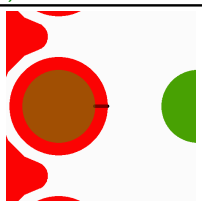
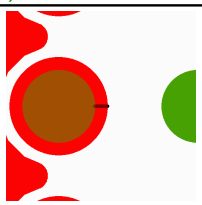
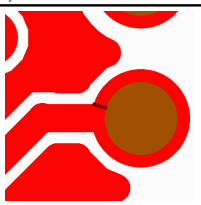
Lines

1) 16 mil	2) 16 mil	3) 16 mil	4) 16 mil	5) 16 mil
				
(0.392 ,0.525) inch	(0.392 ,0.475) inch	(0.475 ,0.388) inch	(0.418 ,0.35) inch	(0.473 ,0.612) inch

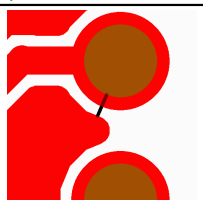
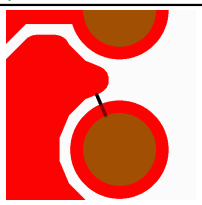
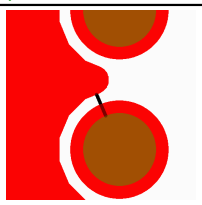
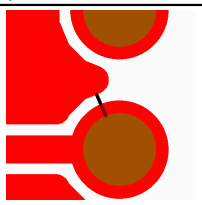
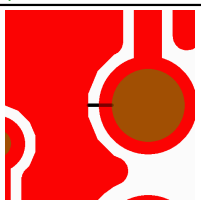
Spacing

1) 6.002 mil	2) 6.002 mil	3) 6.002 mil	4) 6.002 mil	5) 6.002 mil
				
(0.558 ,0.357) inch	(0.924 ,0.489) inch	(0.924 ,0.41) inch	(0.924 ,0.332) inch	(0.924 ,0.511) inch

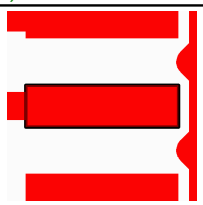
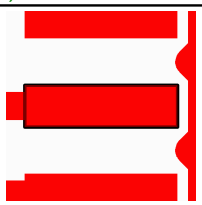
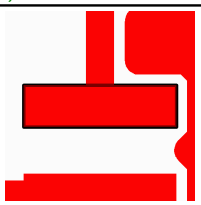
Annular Ring

1) 7.217 mil	2) 7.217 mil	3) 7.217 mil	4) 7.217 mil	5) 7.217 mil
				
(0.913 ,0.626) inch	(0.96 ,0.461) inch	(0.96 ,0.382) inch	(0.943 ,0.72) inch	(0.913 ,0.546) inch

PTH To Copper

1) 13.219 mil	2) 13.219 mil	3) 13.219 mil	4) 13.219 mil	5) 13.22 mil
				
(0.925 ,0.514) inch	(0.925 ,0.486) inch	(0.925 ,0.407) inch	(0.925 ,0.328) inch	(0.909 ,0.697) inch

SMD Pads

1) 23.625 x 62.991 mil	2) 23.625 x 62.991 mil	3) 23.625 x 62.991 mil	4) 23.625 x 62.991 mil	5) 23.625 x 62.991 mil
				
(0.473 ,0.475) inch	(0.677 ,0.475) inch	(0.473 ,0.425) inch	(0.473 ,0.525) inch	(0.473 ,0.575) inch

Attachments

Attached files: 1

Layer	Type	Polarity	Input File Name
solder_paste-top	solder_paste	Positive	solderpaste_top.gbr
silk_screen-top	silk_screen	Positive	silkscreen_top.gbr
solder_mask-top	solder_mask	Positive	soldermask_top.gbr
copper-top	mixed	Positive	copper_top.gbr
copper-bot	mixed	Positive	copper_bottom.gbr
solder_mask-bot	solder_mask	Positive	soldermask_bottom.gbr
silk_screen-bot	silk_screen	Positive	silkscreen_bottom.gbr
solder_paste-bot	solder_paste	Positive	solderpaste_bottom.gbr
plated01-02	drill	Positive	drills.xln