

## Fabrication Notes

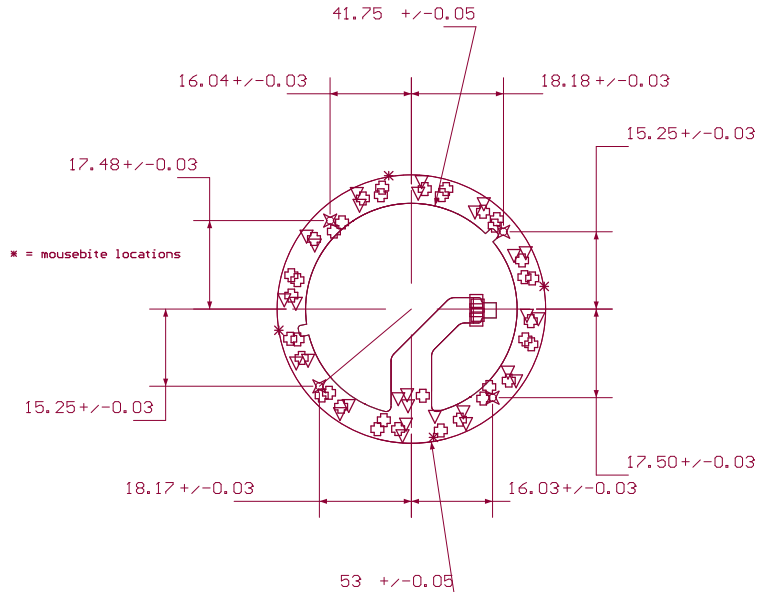
1. Material: Flex-Stiffener. (See Page Flex Stiffener)  
Flex-only. (See Page Flex only)
2. Number of electrical layers: 4
3. Trace / Space minimum: 5mil (all layers)
4. Thickness: 0.3 mm +/- 0.1mm (finished), see bottom right layer chart
5. Finish: ENIG plating on exposed copper
6. Soldermask: per IPC-SM-840, color black, registration within +/- 76um of circuit layer
7. Silkscreen: printed silkscreen on top and bottom layers, color white. Clip on pads.
8. All vias are tented
9. Board must be lead free process compatible.
10. mousebites shall be no larger than 0.05 mm
11. All Test/QA/QC markings, if present, are to be made on back side of PCB
12. All Dimensions are after plating/finishing
13. All components must be placed within +/- 0.10mm


Layer	Name	Material	Thickness	Constant	Flex-stiffener Layer Stack	Flex Layer Stack
1	Top Overlay 1					
2	Top Overlay					
3	Top Solder	Solder Resist	0.012mm	3.5		
4	Component Side	Copper	0.018mm			
5	Flexible Dielectric 1	Polymide	0.012mm	3.5		
6	Ground Plane	Copper	0.018mm			
7	Flexible core Dielectric	Polymide	0.012mm	3.5		
8	Power Plane	Copper	0.018mm			
9	Flexible Dielectric 2	Polymide	0.012mm	3.5		
10	Solder Side	Copper	0.018mm			
11	Bottom Solder	Solder Resist	0.012mm	3.5		
12	Bottom Overlay					
13	Stiffener overlay					

Symbol	Hit Count	Finished Hole Size	Hole Type	Plated
o	36	0.300mm (11.81mil)	Round	PTH
□	5	0.400mm (15.75mil)	Round	PTH
▽	28	0.411mm (16.18mil)	Round	PTH
⌘	4	1.400mm (55.12mil)	Round	NPTH
73 Total				

## Flex-Stiffener Flex-Only

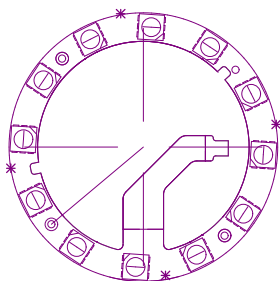
0.3mm	Top overlay (.012mm)	0.132mm
	Top solder	
	Component side	
	Dielectric	
	Ground plane	
	Dielectric	
	Power plane	
	Dielectric	
	Solder side	
	Bottom solder	
Stiffener layer (.0156mm)		
Top solder (.012mm)		
Component side (.018mm)		
Dielectric (.012mm)		
Ground plane (.018mm)		
Dielectric (.012mm)		
Power plane (.018mm)		
Dielectric (.012mm)		
Solder side (.018mm)		
Bottom solder (.012mm)		




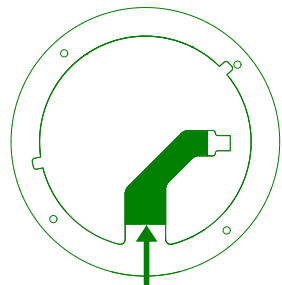
METRIC		DRAWER	DATE			
DIMENSIONS ARE IN MILLIMETERS		DESIGNER	DATE			
TOLERANCES		Ben	05/01/15	TITLE:  Morpheus LED Board		
0 > - < 2 0.10		PROPRIETARY AND CONFIDENTIAL  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HELLO INC.				
2 > - < 10 0.10						
10 > - < 50 0.15						
50 > - < 100 0.15						
100 > - < 200 0.20		ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HELLO INC IS PROHIBITED.				
200 > - 0.20						
ANGLES 1.00				SIZE	DWG. NO.	REV
				B	201-00006-B	
				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

## Assembly Notes

1. LED IC Pin #1 is noted as the triangular edge
2. IMPORTANT! Please follow the LQW temperature reflow process as specified by World-Semi Documentation  
<https://www.dropbox.com/s/unyja19r8m1h7r3/4S2812S%28B%29%20Using%20Instructions.pdf?dl=0>  
Contact Ben Peng for more detail- ben@sayhello.com

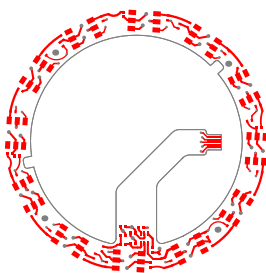


METRIC		DRAFTER		DATE					
DIMENSIONS ARE IN MILLIMETERS		DESIGNER		DATE					
TOLERANCES		Ben		05/01/15		TITLE: Morpheus LED Board			
0 > - < 2 0.10		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF HELLO INC.							
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100 > - < 200 0.20		ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF HELLO INC IS PROHIBITED.							
200 > - 0.20									
ANGLES 1.00		SIZE				DWG. NO.		REV	
		B				905-00006-B			
		SCALE: 1:1				WEIGHT:		SHEET 1 OF 1	

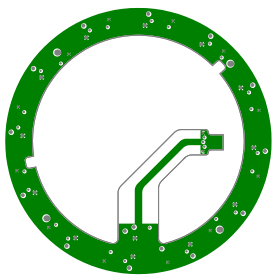


**Flex only layer**

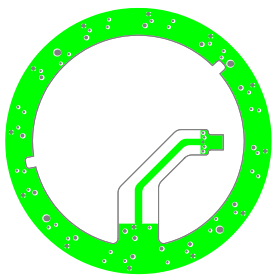




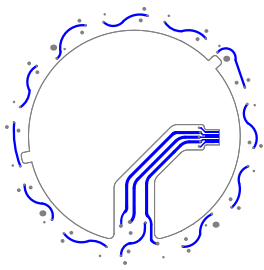
Component side



Ground plane



Power plane



Solder side



