

FABRICATION NOTES

Design Parameters:

Parameter	Specification/Value
Minimum Track Width	8 mil
Minimum Clearance	0.2 mm
Minimum Via Pad Size	20 mil
Minimum Annular Ring	0.05 mm (2 mil) external
Fabrication Standard	Per IPC-D-275 Class 2, Level C
Registration Tolerances	Metal ± 5 mil, Holes ± 3 mil
Material	FR-4 High Tg
Board Thickness	62 mil (1.6 mm) $\pm 10\%$
Tolerance	ANSI IPC-6012 Type 3 Class 2
Bow & Twist	ANSI IPC-6012 Type 3 Class 2
PTH Minimum Copper Thickness	1 mil
Silkscreen Layers	Top, Bottom
Silkscreen Color	White
Solder Resist Color	Green
Surface Finish	Immersion Gold (ENIG)
Array/Panelization Method	V-Score
Certifications	Meets or exceeds ANSI IPC-A-600F Class 2, UL 94V-0, RoHS

General Requirements:

1. Assemblies are ESD sensitive. Appropriate ESD precautions must be strictly observed during handling and assembly.
2. Assemblies must be thoroughly cleaned and free from flux residues and contaminants. The use of no-clean flux is prohibited.
3. All assemblies must comply with IPC-A-610 Class 2 workmanship standards, unless otherwise specified.

Important Component Notes:

- Components labeled "DNP" (Do Not Populate) must not be assembled onto the board.
- Surface Mount Technology (SMT) components sharing a layer with Through-Hole (TH) components must be populated prior to TH component assembly.

Via Requirements:

- All vias located within SMT and thermal pads shall comply with IPC-4761 Type VII specifications (Via-In-Pad Plated Over - VIPPO). These vias shall be epoxy-filled, copper-plated, and planarized to achieve a flat surface and prevent solder wicking.
- All exposed vias located outside of pads must be tented with solder mask on both sides of the board to prevent solder migration.

Layer Stack up:

#	Name	Material	Type	Weight	Thickness	Dk	Df
	Top Overlay		Overlay				
	Top Solder	Solder Resist	Solder Mask		0.4mil	3.5	
1	Top Layer		Signal	2oz	2.5mil		
	Dielectric1	FR-4 High Tg	Core		4.6mil	4.8	
2	MidLayer1		Signal	2oz	2.5mil		
	Dielectric2	FR-4 High Tg	Prepreg		20.5mil	4.8	
3	MidLayer2		Signal	2oz	2.5mil		
	Dielectric3	FR-4 High Tg	Core		4.6mil	4.8	
4	Bottom Layer		Signal	2oz	2.5mil		
	Bottom Solder	Solder Resist	Solder Mask		0.4mil	3.5	
	Bottom Overlay		Overlay				