



# Winow New Energy Co., Ltd

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No	Items	Best Capability	
1	Layer Count	1-6L 1-4 L normal	
2	Board Thickness	0.1-0.5mm (1-4L) 0.6-0.8mm (5-6L)	
3	The tolerance of 1L board thickness (exclude stiffener)	±0.03mm	
4	The tolerance of 2L board thickness (<=0.3mm), exclude stiffener	±0.03mm (Normal ±0.05mm)	
5	The tolerance of multilayer board thickness (<0.3mm), exclude stiffener	±0.03mm (Normal ±0.05mm)	
6	The tolerance of multilayer board thickness (0.3-0.8mm), exclude stiffener	±10% (Normal ±0.1mm)	
7	The tolerance of board thickness (include PI stiffener)	±10% (Normal ±0.05mm)	
8	The tolerance of board thickness (include FR4 stiffener)	±10% (Normal ±0.1mm)	
9	Max finished board size	9inch*23inch (PI≥1mil) 9inch*14inch (normal)	
10	Min finished board size	2mm*4mm (no connection tab) ; 8mm*8mm (with connection tab)	
11	Material	Adhesive flex core	生益 SF305: PI=0.5mil, 1mil, 2mil; Cu=0.33OZ, 0.5OZ, 1OZ
		Adhesiveless core	松下RF-775(电解): PI=1mil, 2mil; Cu=0.33, 0.5oz, 1oz, 2oz 新扬Thinflex: PI=1mil, 2mil; Cu=0.33, 0.5oz, 1oz 杜邦AP: PI=1mil, 2mil, 3mil,4mil; Cu=0.5oz, 1oz, 2oz
		Coverlay	生益 SF305C 系列: 0515, 0525, 1025, 1035, 2030 台虹 FHK 系列: 0515, 0525, 1025, 1035, 2025 杜邦FR: 0110, 0210, 7001,7082; 杜邦LF: 0110,0210
		Thermosetting adhesive	台虹系列: AD=10um, 25um, 40um; 生益SF302B: AD=25um, 40um;
		PI stiffener	台虹 MHK 系列: PI=3mil, 5mil, 7mil, 9mil
		3M tape	9077,9460
		12	Min inner layer line width / space (before compensation)
13	Inner layer grid	Finished copper thickness 12um / 18um	5/5mil (after compensation)
		Finished copper thickness 35um	6.5/5mil (after compensation)
		Finished copper thickness 70um	10/8mil (after compensation)
14	Min. Inner layer annual ring width (IPCIII, before compensation)	4mil (< 4L) , 7mil (4-6L) , 9mil (7-8L)	
15	The min distance between inner layer isolated pad and copper area (before compensation)	3.5mil 4mil normal	
16	Max finished inner layer copper thickness	3oz 2 oz normal	
17	The min distance between inner layer conductor and outline	8mil 10mil normal	
18	Min external layer line width / space before compensation	Finished copper thickness, before compensation	3/3mil
		Finished copper thickness 35um, before compensation	3.5/3.5mil
		Finished copper thickness 70um, before compensation	5.5/5mil
19	Min annual ring for PTH in external layer	Finished copper thickness 35um,	3mil (< 2mm) ; 4mil (2-4.5mm)
		Finished copper thickness 35-70um,	5mil (< 2mm) ; 6mil (2-4.5mm)
		Finished copper thickness >70um,	7mil (< 2mm) ; 10mil (2-4.5mm)
20	Min the distance between NPTH edge to external conductor before compensation	5mil 6mil normal	
21	Max finished external copper thickness	4oz 2 oz normal	

23	Min the distance between external conductor and outline	8mil 5mil (Gold finger area)	
24	Hole	The max board thickness for 0.15mm drill bit	0.8mm
		Min laser hole diameter	0.1mm
		Min finish half PTH via diameter	0.3mm
		Min NPTH tolerance	±2mil(limit+0, -2mil or +2mil, -0)
		Min space between via hole walls in different net, before compensation	10mil(after compensation) 12mil (normal)(after compensation)
25	Solder mask	Solder mask bridge min. (copper thickness≤1oz)	4mil(Green), 5mil(White), 8.0mil (big copper area)
		Solder mask bridge min. (copper thickness2-4oz)	6mil, 8mil (big copper area)
		Solder mask opening (single side)	3mil(partial2.5mil)
		Solder mask opening of NPTH (single side)	4mil
		Min width of soldermask cover line(singleside)	2.5mil
		Solder mask legend width min	8mil
		Solder mask color	green/white/yellow
		Silk screen color	white/yellow
27	Outline	Tolerance of Laser cutting	±0.05mm
28	Other	Impedance tolerance	Single-Ended: ±5Ω(≤50Ω), ±5%(>50Ω) Difference: ±3Ω(≤50Ω), ±5%(>50Ω)
		Tolerance of stiffener tape	±0.1mm (Normal ±0.2mm)
		Tolerance of Coverlay	±2mil ((Normal ±4mil)
		Min distance between coverlay opening and conduct	3mil ((Normal 4mil)
		Min. coverlay bridge	8mil
		Hollowing board	Finger length≤5mm; line width≥10mil; copper thickness≥1oz
		Min E-test pad	3mil ((Normal 4mil)
		IPC Class 3	Yes
		Min distance between E-test pads	2mil ((Normal 4mil)