

FPC & Rigid-FPC Roadmap

Item		Technology Routing			Remarks
		2015	2016	2017	
Material	FCCL	Adhesive/Adhesive-less FCCL	Adhesive/Adhesive-less FCCL	Adhesive/Adhesive-less FCCL, PET	
	Stiffener	PI, FR4 Stiffener	PI, FR4, Steel Stiffener	PI, FR4, Steel, Al-Based Stiffener	
	Adhesive sheet	Acrylic adhesive series	Acrylic adhesive series	Epoxy adhesive series, Acrylic adhesive series	
	Coverlay	Epoxy adhesive series, Acrylic adhesive series	Epoxy adhesive series, Acrylic adhesive series	Epoxy adhesive series, Acrylic adhesive series	Mainly Acrylic adhesive series
Layers	FPC	4	4	10	
Finished Thickness	Thickness	Min 0.07mm	Min 0.07mm	Min 0.05mm	Single Sided FPC
	Tolerance	Min ± 0.03 mm	Min ± 0.03 mm	Min ± 0.03 mm	
Copper Thickness	Inner Layer	1/3-10Z	1/3-10Z	1/3-10Z	Base Copper
	Outer Layer	1/3-20Z	1/3-20Z	1/3-20Z	Base Copper
Finished Size	Min.	Min 20m x 20mm	Min 20mm x 20mm	Min 5mm x 5mm	
	Max.	Max 305mm x 457mm	Max 457mm x 610mm	Max 500mm x 1000mm	
Min. Line Width/Space	Inner Layer	3mil/3mil	3mil/3mil	2mil/2mil	Finished Copper Hoz
	Outer Layer	3mil/3mil	3mil/3mil	2mil/2mil	Finished Copper:1oz
Finished Drilling	CNC drill	Min $\phi 0.15$ mm	Min $\phi 0.15$ mm	Min $\phi 0.15$ mm	
	Laser drill	Min $\phi 0.10$ mm	Min $\phi 0.10$ mm	Min $\phi 0.05$ mm	CO2 Laser drill
Aspect Ration	CNC drill	Max 1.2:1	Max 1.2:1	Max 1.2:1	$\phi 0.1$ mm Blind VIA
	Laser drill	Max 15:1	Max 15:1	Max 18:1	$\phi 0.3$ mm机械孔径
Dielectric Thickness	FCCL	Min 0.0125mm	Min 0.0125mm	Min 0.0125mm	
Routing Tolerance	Laser Routing	+/-0.05mm	+/-0.05mm	+/-0.05mm	UV Laser Cutting
	Punching	Min 0.05mm	Min 0.05mm	Min 0.05mm	Walking Wire steel mould
Surface Treatment		ENIG, EPENIG, Plating Sn-Cu	ENIG, Flash Gold, OSP, Immersion Tin, EPENIG, Immersion Silver, Plating Sn-Cu	ENIG, Flash Gold, HASL/HASL Lead free, OSP, Immersion Tin, EPENIG, Immersion Silver, Plating Sn-Cu	