



Why JLCPCB? (<https://jlcpcb.com/aboutUs>) — Capabilities (<https://jlcpcb.com/capabilities/Capabilities>) — Support (<https://support.jlcpcb.com>)

Multilayer high precision PCB's with impedance control

[Order now](#) [My file \(/shopcart/fileManager\)](#)

JLCPCB can produce High-precision multilayer board with capabilities listed in below table.

Min. Trace width/Spacing	Min. Via	Min. BGA
3.5mil	0.2mm	0.25mm

It is very convenient for customers to conduct an impedance matching design, according to JLCPCB’s laminated structure and related parameters. The PCB will be strictly produced in accordance with the following stackup.

Controlled Impedance PCB Parameters and Stackup

1.Prepreg dielectric constant:

Prepreg type	Dielectric constant
7628	4.6
3313	4.05
2116	4.25

2.Solder mask Parameters

Solder mask thickness over the laminate	Solder mask thickness over traces	Solder mask dielectric constant
0.8mil	0.5mil	3.8

3. Core dielectric constant

Core dielectric constant
4.6

For your convenience, we have designed an Impedance Calculator (</impedanceCalculation>) to help you calculate the impedance and the trace width you require.

4-Layer Impedance Control Stackup

Thickness

0.8mm

1.0mm

1.2mm

1.6mm

2.0mm

a) JLC7628 Stackup:

Layer	Material Type	Thickness	
Top Layer1	Copper	0.035 mm	
Prepreg	7628*1	0.2104 mm	
Inner Layer2	Copper	0.0152 mm	1.1mm (with copper core)
Core	Core	1.065 mm	
Inner Layer3	Copper	0.0152 mm	
Prepreg	7628*1	0.2104 mm	
Bottom Layer4	Copper	0.035 mm	
0.2mm (7.87 mil) is nominal thickness of 7628 prepreg. Use 7.1 mil as the thickness when the controlled impedance tracks are on top/bottom, use 8.1 mil when tracks are inside.			

b) JLC3313 Stackup:

Layer	Material Type	Thickness	
Top Layer1	Copper	0.035 mm	
Prepreg	3313*1	0.0994 mm	
Inner Layer2	Copper	0.0152 mm	1.3 mm (with copper core)
Core	Core	1.265 mm	
Inner Layer3	Copper	0.0152 mm	
Prepreg	3313*1	0.0994 mm	
Bottom Layer4	Copper	0.035 mm	

0.1mm (3.94 mil) is nominal thickness of 3313 prepreg. Use 3.5 mil as the thickness when the controlled impedance tracks are on top/bottom, use 4.5 mil when tracks are inside.

6-Layer Impedance Control Stackup

Thickness

1.2mm

1.6mm

2.0mm

b) JLC3313 Stackup:

Layer	Material Type	Thickness	
Top Layer1	Copper	0.035 mm	
Prepreg	3313*1	0.0994 mm	
Inner Layer2	Copper	0.0152 mm	0.55 mm (with copper core)
Core	Core	0.55 mm	
Inner Layer3	Copper	0.0152 mm	
Prepreg	2116*1	0.1088 mm	
Inner Layer4	Copper	0.0152 mm	0.55 mm (with copper core)
Core	Core	0.55 mm	
Inner Layer5	Copper	0.0152 mm	
Prepreg	3313*1	0.0994 mm	
Bottom Layer6	Copper	0.035 mm	

0.1mm (3.94 mil) is nominal thickness of 3313 prepreg. Use 3.5 mil as the thickness of 3313 prepreg when the controlled impedance tracks are on top/bottom, use 5.5 mil(2116 prepreg) or 8.5mil(7628 prepreg) when tracks are inside.

Note: The 6-Layer board temporarily only provides JLC3313 Stackup.

COMPANY

- About JLCPCB (<https://jlcpcb.com/aboutUs>)
- How we work (<https://jlcpcb.com/aboutUs/howWorks>)
- Quality Management
(<https://jlcpcb.com/aboutUs/qualityControl>)
- Security (<https://jlcpcb.com/aboutUs/security>)
- Certifications (<https://support.jlcpcb.com/article/64-certifications>)


SUPPORT

- Help Center (<https://support.jlcpcb.com>)
- Shipping Info (<https://support.jlcpcb.com/article/27-shipping-methods-and-delivery-time>)
- How To Order (<https://support.jlcpcb.com/article/21-how-do-i-place-an-order>)
- How To Track (<https://support.jlcpcb.com/article/141-how-to-track-my-order>)


NETWORK SITES


- EasyEDA (<https://easyeda.com>)
- LCSC components (<https://lcsc.com/?href=jlc-foote>)

CONNECT WITH US

<https://www.facebook.com/jlcpcb>

<https://twitter.com>

<https://www.instagram.com/jlcpcb>

<https://www.you>

Contact Us (<https://support.jlpcb.com/article/45-contact-jlpcb>)



(<https://www.linkedin.com/company/jlpcb>)

Support Team (<https://jlpcb.com/ourTeam>)

© 2022 JLCPCB.COM All Rights Reserved. Privacy Policy ([ht](#)
[privacy-policy](#)) Terms & Conditions (<https://support.jlpcb.com>