Defined layer buildup / layout examples for impedance



1-48 layers · 1WD express · 30 years

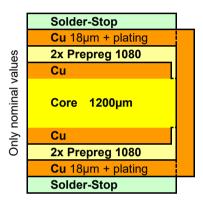
All values given are average values based on our many years of experience and serve as a basic orientation.

The actual values depend on the individual PCB layout and the chosen manufacturing technology.

On request, we can manufacture your PCB with impedance control (+/-10% or +/-5%).

Specified prepreg thicknesses: after pressing, at approx. 80% copper utilisation on the inner layers.

4 layers 1.6mm: Type 4L-01



- TOP -	35µm	
_	140µm	٤r: 4,00
- IN2 -	35µm	
	1200µm	Er: 4,60
- IN3 -	35µm	
	140µm	٤r: 4,00
- BOT -	35µm	

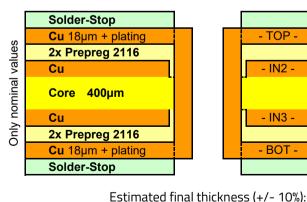
Estimated final thickness (+/- 10%): 1.6mm

Layout examples impedance

	Ohm	signal layer	reference layer	width space width
Single ended	50 Ω	TOP	IN2	245µm - -
Differential pairs	90 Ω	TOP	IN2	180µm 120µm 180µm
Differential pairs	100 Ω	TOP	IN2	120µm 115µm 120µm
Single ended	50 Ω	ВОТ	IN3	245µm - -
Differential pairs	90 Ω	вот	IN3	180µm 120µm 180µm
Differential pairs	100 Ω	ВОТ	IN3	120µm 115µm 120µm

Loss Tangent / Dissipation factor (Df): ca. 0.02 Dielectric constant &r for 1x Prepreg 1080: 3.95

4 layers 1.0mm: Type 4L-02



- TOP -	35µm	
	230µm	٤r: 4,25
- IN2 -	35µm	
	400µm	Er: 4,50
- IN3 -	35µm	
	230µm	٤r: 4,25
- BOT -	35µm	

1.0mm

	Ohm	signal layer	reference layer	width space width
Single ended	50 Ω	TOP	IN2	395µm - -
Differential pairs	90 Ω	TOP	IN2	230µm 120µm 230µm
Differential pairs	100 Ω	TOP	IN2	180µm 130µm 180µm
Single ended	50 Ω	ВОТ	IN3	395µm - -
Differential pairs	90 Ω	ВОТ	IN3	230µm 120µm 230µm
Differential pairs	100 Ω	вот	IN3	180µm 130µm 180µm

Loss Tangent / Dissipation factor (Df): ca. 0.02 Dielectric constant &r for 1x Prepreg 2116: 4.20

CONTRACTING PARTY:

Multi Leiterplatten GmbH Brunnthaler Straße 2 DE-85649 Brunnthal

SUPPORT:

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1-48 layers · 1WD express · 30 years

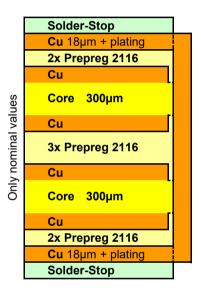
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The actual values depend on the individual PCB layout and the chosen manufacturing technology.

On request, we can manufacture your PCB with impedance control (+/- 10% or +/- 5%).

Specified prepreg thicknesses: after pressing, at approx. 80% copper utilisation on the inner layers.

6 layers 1.6mm: Type 6L-01





Estimated final thickness (+/- 10%): **1.6mm**

Layout examples impedance

	Ohm	signal layer	reference layer	width space width
Single ended	50 Ω	TOP	IN2	395µm - -
Differential pairs	90 Ω	TOP	IN2	230µm 120µm 230µm
Differential pairs	100 Ω	TOP	IN2	180µm 130µm 180µm
Single ended	50 Ω	IN3	IN2/IN4	255µm - -
Differential pairs	90 Ω	IN3	IN2/IN4	160µm 145µm 160µm
Differential pairs	100 Ω	IN3	IN2/IN4	135µm 170µm 135µm
Single ended	50 Ω	IN3	IN2/IN5	320µm - -
Differential pairs	90 Ω	IN3	IN2/IN5	180µm 145µm 180µm
Differential pairs	100 Ω	IN3	IN2/IN5	165µm 195µm 165µm
Single ended	50 Ω	IN4	IN5/IN2	320µm - -
Differential pairs	90 Ω	IN4	IN5/IN2	180µm 145µm 180µm
Differential pairs	100 Ω	IN4	IN5/IN2	165µm 195µm 165µm
Single ended	50 Ω	IN4	IN5/IN3	255µm - -
Differential pairs	90 Ω	IN4	IN5/IN3	160µm 145µm 160µm
Differential pairs	100 Ω	IN4	IN5/IN3	135µm 170µm 135µm
Single ended	50 Ω	ВОТ	IN5	395µm - -
Differential pairs	90 Ω	ВОТ	IN5	230µm 120µm 230µm
Differential pairs	100 Ω	ВОТ	IN5	180µm 130µm 180µm

Loss Tangent / Dissipation factor (Df): ca. 0.02 Dielectric constant &r for 1x Prepreg 2116: 4.20

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1-48 layers · 1WD express · 30 years

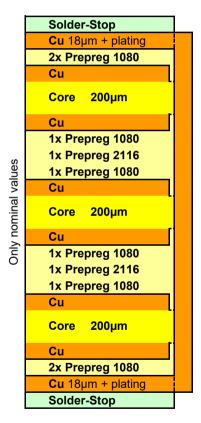
All values given are average values based on our many years of experience and serve as a basic orientation.

The actual values depend on the individual PCB layout and the chosen manufacturing technology.

On request, we can manufacture your PCB with impedance control (+/-10% or +/-5%).

Specified prepreg thicknesses: after pressing, at approx. 80% copper utilisation on the inner layers.

8 layers 1.7mm: Type 8L-01



- TOP -	35µm	
	140µm	Er: 4,00
- IN2 -	35µm	
	200µm	Er: 4,40
- IN3 -	35µm	
	255µm	Er: 4,10
- IN4 -	35µm	
	200µm	Er: 4,40
- IN5 -	35µm	
	255µm	Er: 4,10
- IN6 -	35µm	
	200µm	٤r: 4,40
- IN7 -	35µm	
	140µm	Er: 4,00
- BOT -	35µm	

Estimated final thickness (+/- 10%):

Layout examples impedance

	Ohm	signal layer	reference layer	width space width
Single ended	50 Ω	TOP	IN2	245µm - -
Differential pairs	90 Ω	TOP	IN2	180µm 120µm 180µm
Differential pairs	100 Ω	TOP	IN2	120µm 115µm 120µm
Single ended	50 Ω	IN3	IN2/IN4	175µm - -
Differential pairs	90 Ω	IN3	IN2/IN4	110µm 110µm 110µm
Single ended	50 Ω	IN3	IN2/IN5	210µm - -
Differential pairs	90 Ω	IN3	IN2/IN5	125µm 115µm 125µm
Differential pairs	90 Ω	IN4	IN3/IN6	160µm 130µm 160µm
Differential pairs	100 Ω	IN4	IN3/IN6	115µm 135µm 115µm
Single ended	50 Ω	IN4	IN3/IN6	270µm - -
Single ended	50 Ω	IN5	IN3/IN6	270μm - -
Single ended	50 Ω	IN6	IN7/IN4	210µm - -
Differential pairs	90 Ω	IN6	IN7/IN4	125µm 115µm 125µm
Single ended	50 Ω	IN6	IN7/IN5	175μm - -
Differential pairs	90 Ω	IN6	IN7/IN5	110µm 110µm 110µm
Single ended	50 Ω	ВОТ	IN7	245µm - -
Differential pairs	90 Ω	вот	IN7	180µm 120µm 180µm
Differential pairs	100 Ω	ВОТ	IN7	120µm 115µm 120µm

Loss Tangent / Dissipation factor (Df): ca. 0.02

Dielectric constant &r for 1x Prepreg 2116: 4.20 | Dielectric constant &r for 1x Prepreg 1080: 3.95

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