

Defined layer buildup / layout examples for impedance

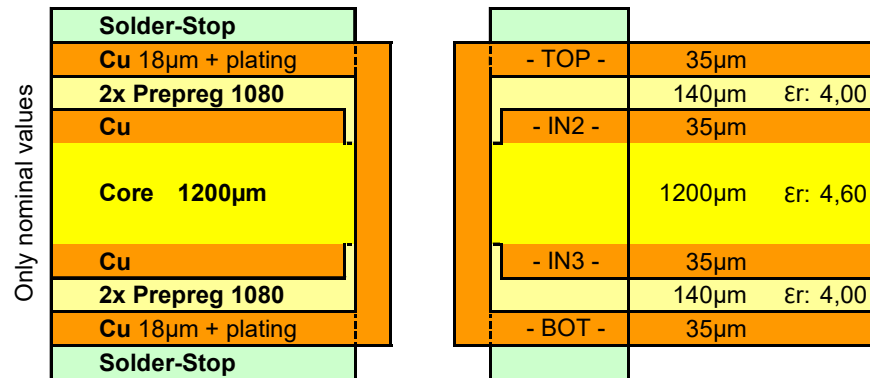
All values given are average values based on our many years of experience and serve as a basic orientation.

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: Type 4L-01



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	BOT	IN3	245µm - -
Differential pairs	90 Ω	BOT	IN3	180µm 120µm 180µm
Differential pairs	100 Ω	BOT	IN3	120µm 115µm 120µm

Loss Tangent / Dissipation factor (Df): ca. 0,02
Dielectric constant ϵ_r for 1x Prepreg 1080: 3,95

Defined layer buildup / layout examples for impedance

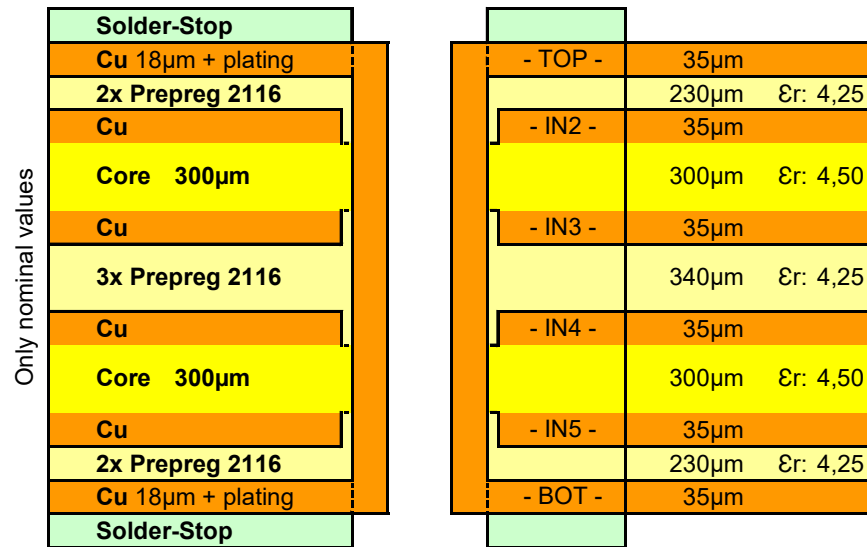
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Specified prepreg thicknesses: after pressing, at approx. 80% copper utilisation on the inner layers.

6 layers: 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	BOT	IN5	395µm - -
Differential pairs	90 Ω	BOT	IN5	230µm 120µm 230µm
Differential pairs	100 Ω	BOT	IN5	180µm 130µm 180µm

Loss Tangent / Dissipation factor (Df): ca. 0,02
Dielectric constant εr for 1x Prepreg 2116: 4,20

Defined layer buildup / layout examples for impedance

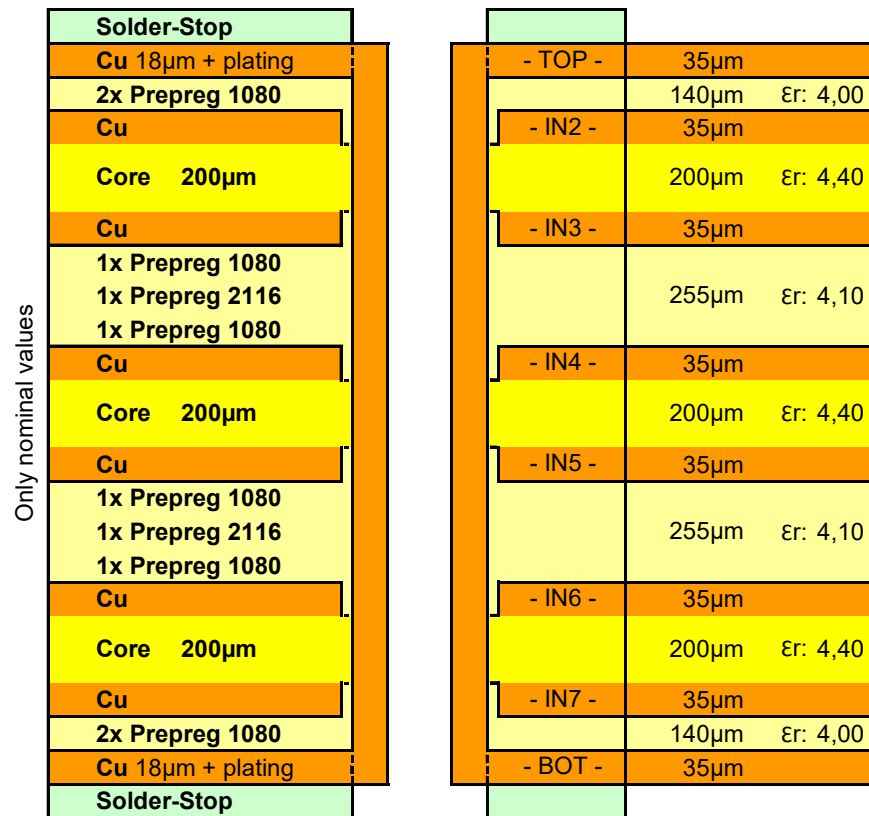
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Specified prepreg thicknesses: after pressing, at approx. 80% copper utilisation on the inner layers.

8 layers: Type 8L-01



Estimated final thickness (+/- 10%): **1,7mm**

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	BOT	IN7	245µm - -
Differential pairs	90 Ω	BOT	IN7	180µm 120µm 180µm
Differential pairs	100 Ω	BOT	IN7	120µm 115µm 120µm

Loss Tangent / Dissipation factor (Df): ca. 0,02

Dielectric constant ϵ_r for 1x Prepreg 2116: 4,20 | Dielectric constant ϵ_r for 1x Prepreg 1080: 3,95