

Capabilities

1 to 2 layer - rigid

Standard High-End

Multilayer - rigid

Standard High-End

Geometry and Dimension

panel format	457x305mm and 610x460mm		457x305mm and 610x460mm	
panel structure edge	ca. 20mm		ca. 20mm	
max. panel size in mm	420x270		410x260	
min. panel size in mm	individual		individual	
max. pcb dimension (mm)	420x270mm and 574x424mm		410x260mm and 563x413mm	
min. pcb dimension (mm)	2 x 2mm		5 x 5mm	
max. layer count	NA		24	40
max. total board thickness [mm]	4,5mm		4,5mm	
min. total board thickness [mm]	0,050mm		0,26mm	
pcb thickness tolerance	(+/-) 10%	(+/-) 10%	(+/-) 10%	(+/-) 5%
pcb thickness tolerance	(+/-) 0,1mm	(+/-) 0,025mm	(+/-) 0,1mm	(+/-) 0,025mm

BuildUp

max. thickness of core layer [mm]	3,2mm		3,2mm	
min. thickness of core layer [mm]	0,05mm		0,05mm	
max. Isol.-thickness (dielectric) [µm]	4,5mm		0,36mm	
min. Isol.-thickness (dielectric) [µm]	0,05mm		0,05mm	
max. operating voltage	AABUS		AABUS	
layer to layer misalignment	100µ	75µ	100µ	75µ

Layout

CU-inner layer (cladding) [µm]	12/18/35/70/105	12/18/35/70/105	12/18/35/70/105	12/18/35/70/105
CU-outer layer (cladding) [µm]	9/12/18/35/70/105	9/12/18/35/70/105	9/12/18/35/70/105	9/12/18/35/70/105
max. conductor width	AABUS		AABUS	
min. conductor width	100µ	75µ	100µ	75µ
conductor width tolerance	(+/-) 20%	(+/-) 10%	(+/-) 20%	(+/-) 10%
track-to-track-tolerance	(+/-) 20%	(+/-) 10%	(+/-) 20%	(+/-) 10%
etching accuracy outer layer [µm]	(+/-) 20µ	(+/-) 10µ	(+/-) 20µ	(+/-) 10µ
etching accuracy inner layer [µm]	(+/-) 10µ	(+/-) 5µ	(+/-) 10µ	(+/-) 5µ
impedance tolerance	(+/-) 10%	(+/-) 5%	(+/-) 10%	(+/-) 5%

Drilling / Vias

max. drill diameter	6,0mm drilled		6,0mm drilled	
min. drill diameter	0,150mm		0,150mm	
max. drill diameter metallized	5,95 drilled		5,95 drilled	
min. drill diameter metallized	0,10mm		0,10mm	
max. copper barrel	35µ	50µ	35µ	50µ
min. copper barrel	20µ	20µ	25µ	25µ
max. µvia-drill-diameter	NA	NA	175µ	175µ
min. µVia -drill-diameter	NA	NA	125µ	100µ
max. µVia-drill-diameter metallized	NA	NA	125µ	125µ
min. µVia-drill-diameter metallized	NA	NA	75µ	75µ
min. µVia-drill-diameter target pad	NA	NA	300µ	250µ
min. µVia-drill-diameter entry pad	NA	NA	325µ	275µ
max. CU µVia drill barrel	NA	NA	full copper-filling	full copper-filling
min. CU µVia drill barrel	NA	NA	25µ	25µ
min. annular ring	125µ	75µ	125µ	75µ
min. annular ring via metallized	150µ	100µ	150µ	100µ
min. annular ring outer layer	125µ	75µ	125µ	75µ
min. annular ring inner layer	125µ	75µ	125µ	75µ
track-to-pad-tolerance / track to PTH	(+/-) 100µ	(+/-) 50µ	(+/-) 100µ	(+/-) 50µ
Aspect Ratio - Blind Via	NA	NA	0,75 to 1	1 to 1
Aspect Ratio - Buried Via	NA	NA	8 to 1	10 to 1
Aspect Ratio - Through Hole	8 to 1	10 to 1	8 to 1	10 to 1
Aspect Ratio - µVia	NA	NA	0,75 to 1	1 to 1

Capabilities

	RigidFlex		Flex	
	Standard	High-End	Standard	High-End
Geometry and Dimension				
panel format	457x305mm		457x305mm	
panel structure edge	ca. 20mm		ca. 20mm	
max. panel size in mm	410x260		410x260	
min. panel size in mm	individual		individual	
max. pcb dimension (mm)	410x260mm		410x260mm	
min. pcb dimension (mm)	20 x 10mm		2 x 2mm	
max. layer count	16	24	6	8
max. total board thickness [mm]	4,5mm		AABUS	
min. total board thickness [mm]	0,8mm		0,12mm	
pcb thickness tolerance	(+/-) 10%	(+/-) 10%	(+/-) 10%	(+/-) 5%
pcb thickness tolerance	(+/-) 0,1mm	(+/-) 0,025mm	(+/-) 0,1mm	(+/-) 0,025mm
BuildUp				
max. thickness of core layer [mm]	3,2mm		3,2mm	
min. thickness of core layer [mm]	0,025mm		0,025mm	
max. Isol.-thickness (dielectric) [µm]	1,6mm		0,2mm	
min. Isol.-thickness (dielectric) [µm]	0,025mm		0,025mm	
max. operating voltage	AABUS		AABUS	
layer to layer misalignment	100µ	75µ	100µ	75µ
Layout				
CU-inner layer (cladding) [µm]	12/18/35/70/105		12/18/35/70/105	
CU-outer layer (cladding) [µm]	9/12/18/35/70/105		9/12/18/35/70/105	
max. conductor width	AABUS		AABUS	
min. conductor width	100µ	75µ	100µ	75µ
conductor width tolerance	(+/-) 20%	(+/-) 10%	(+/-) 20%	(+/-) 10%
track-to-track-tolerance	(+/-) 20%	(+/-) 10%	(+/-) 20%	(+/-) 10%
etching accuracy outer layer [µm]	(+/-) 20µ	(+/-) 10µ	(+/-) 20µ	(+/-) 10µ
etching accuracy inner layer [µm]	(+/-) 10µ	(+/-) 5µ	(+/-) 10µ	(+/-) 5µ
impedance tolerance	(+/-) 10%	(+/-) 5%	(+/-) 10%	(+/-) 5%
Drilling / Vias				
max. drill diameter	6,0mm		6,0mm	
min. drill diameter	0,150mm		0,150mm	
max. drill diameter metallized	5,95mm		5,95mm	
min. drill diameter metallized	0,10mm		0,10mm	
max. copper barrel	35µ	50µ	35µ	50µ
min. copper barrel	25µ	25µ	25µ	25µ
max. µvia-drill-diameter	175µ	175µ	175µ	175µ
min. µVia -drill-diameter	125µ	100µ	125µ	100µ
max. µVia-drill-diameter metallized	125µ	125µ	125µ	125µ
min. µVia-drill-diameter metallized	75µ	75µ	75µ	75µ
min. µVia-drill-diameter target pad	300µ	250µ	300µ	250µ
min. µVia-drill-diameter entry pad	325µ	275µ	325µ	275µ
max. CU µVia drill barrel	full copper-filling	full copper-filling	full copper-filling	full copper-filling
min. CU µVia drill barrel	25µ	25µ	25µ	25µ
min. annular ring	125µ	75µ	125µ	75µ
min. annular ring via metallized	150µ	100µ	150µ	100µ
min. annular ring outer layer	125µ	75µ	125µ	75µ
min. annular ring inner layer	125µ	75µ	125µ	75µ
track-to-pad-tolerance / track to PTH	(+/-) 100µ	(+/-) 50µ	(+/-) 100µ	(+/-) 50µ
Aspect Ratio - Blind Via	0,75 to 1	1 to 1	0,75 to 1	1 to 1
Aspect Ratio - Buried Via	8 to 1	10 to 1	8 to 1	10 to 1
Aspect Ratio - Through Hole	8 to 1	10 to 1	8 to 1	10 to 1
Aspect Ratio - µVia	0,75 to 1	1 to 1	0,75 to 1	1 to 1

Capabilities

Technology

Flex
Rigidflex
Rigid Multilayer
Isolation Plates
HDI - Blind / Buried / Stacked / Staggered Vias
Sequential BuildUp and Mixture BuildUp
Impedance controlled (including measuring protocol)
Laser cutting and drilling
Heatsinks
Backplanes
Embedded Components
Cavities
Hybrid Boards
HighFrequency Boards
HighSpeed Boards
Edge / Slot Metallization
Via In Pad
Plugging (Copper / Epoxy / Soldermask)
Soldermask colours: green, blue, black, white, yellow, red
Soldermask colours: green, blue, black, white, yellow, red
Mixed Surface Finish Options

Materials

Isola
Ventec
DuPont
Thinflex
ITEQ
Arlon
Rogers
Panasonic
Nanya
Nelco
Taconic
FR4 HighTG
NoFlow Systems
HighFlow Systems
Teflon Systems
FR4 HighTG
Polyimid Glas
Others on request

Testing / Data Format

Impedance
FlyingProbe
AOI
Fischerscope XRAY XUL 220
Inhouse Lab
Film Format: DXF, RS-274-x, RS-274-D, ODB++, Eagle
Drill Format: ASCII, Excellon
E-Test Format: IPC-D356
Netlist Format: IPC-D356(A)
Compression Format: ZIP, RAR, TAR, TGZ
Secured Data Method: FTP, Cryptshare, PGP

Surface Finish Options

Hot Air Level (leaded and leadfree)
Immersion Tin
ENIG
ENEPIG
EPIG
ISIG
OSP / Entek
Immersion Silver
Hardgold
Softgold

Qualifications / Certifications

UL-94V0 for Multilayer, Flex and RigidFlex
DIN EN ISO 9001:2015
DIN EN ISO 14001 (Environmental Management)
AS 9100 (Aerospace and Defence)
All relevant IPC Standards
ROHS compliance
Member of EIPC and ZVEI

Mass-Production (Locations)

China
Israel
South Korea
East-Europe
West-Europe
Germany