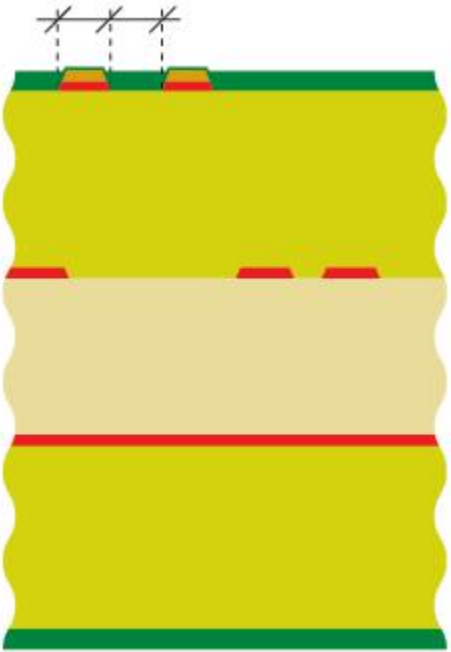


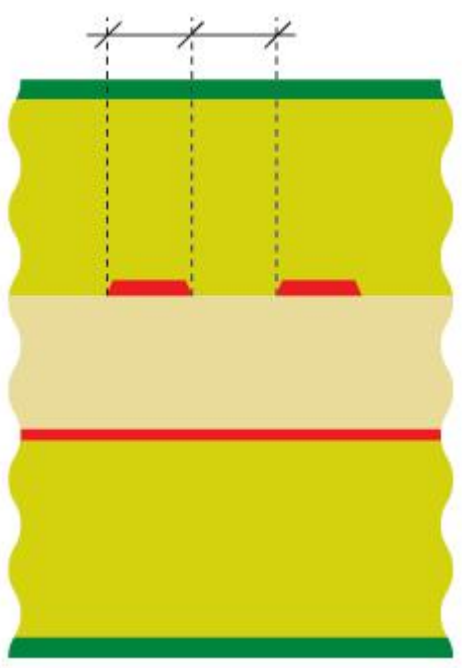
MULTILAYER GENERAL TOLERANCES

Last update: 2016-11-14

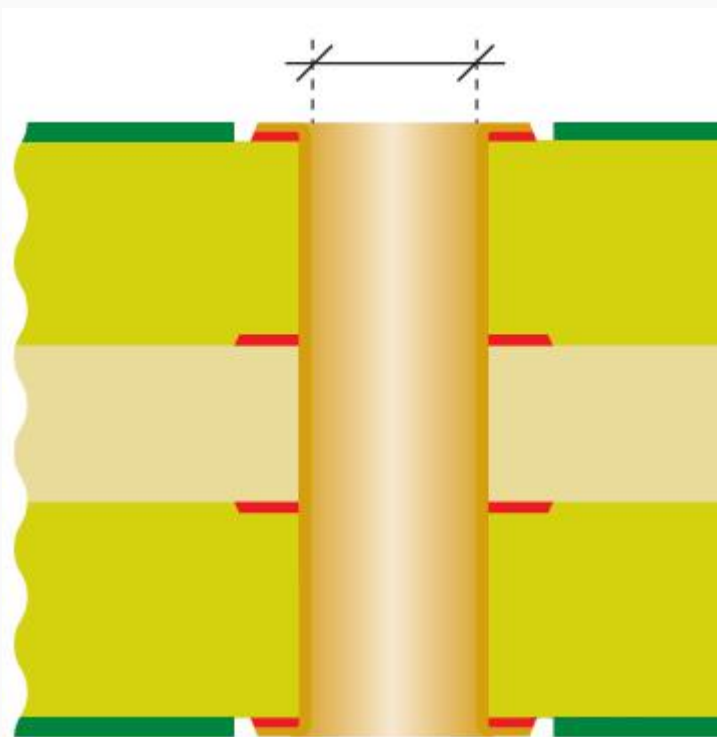
Units: Milimeters

		STAND	SPECIAL
		ARD	

Outer layer		±25%	±15%
trace / spacing width		(35-70 μm)	(35-70 μm)
		±20%	±10%
		(17 μm)	(17 μm)

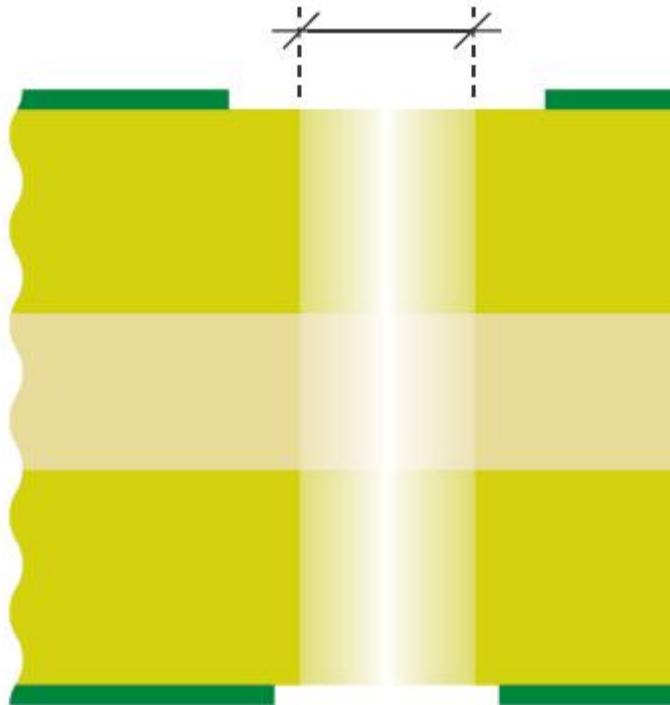
<div>Inner layer track / spacing width</div>			<div>±25%</div> <div>(70 μm)</div> <div>±20%</div> <div>(17-35 μm)</div>	<div>±15%</div> <div>(35-70 μm)</div> <div>±10%</div> <div>(17 μm)</div>
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Plat
ed
hole
dia
met
er



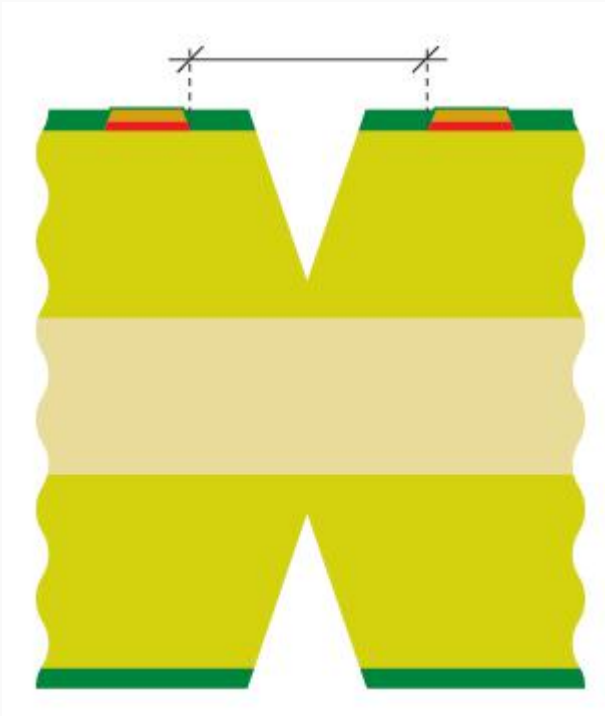
+0,10	+0,10
mm /	mm /
-0,05	-0,0
mm	mm
(or	(or
equival	equival
ent)	ent)

Non
plat
ed
hole
dia
met
er



$+0,10$	$\pm 0,035$
mm /	mm
$-0,0$	(or
mm	equival
(or	ent)
equival	
ent)	

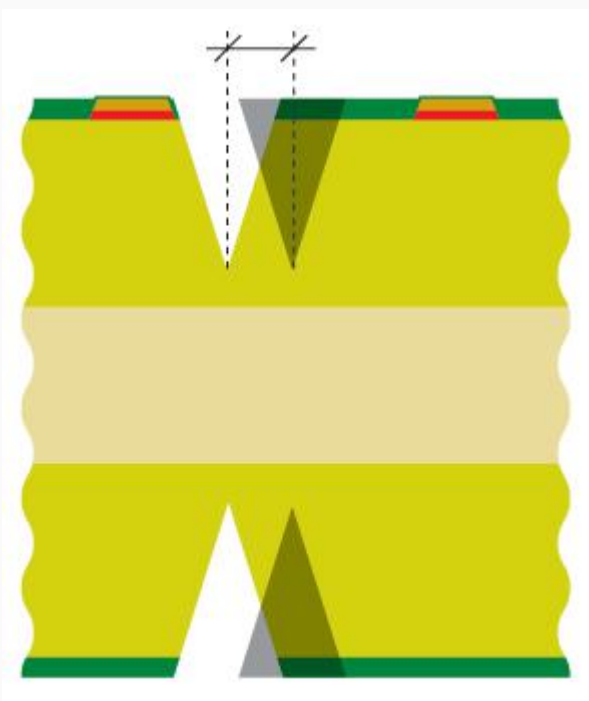
Scoring
to
top
cop
per
clearance



Min.
1,0
mm.

Min.
0,75
mm.

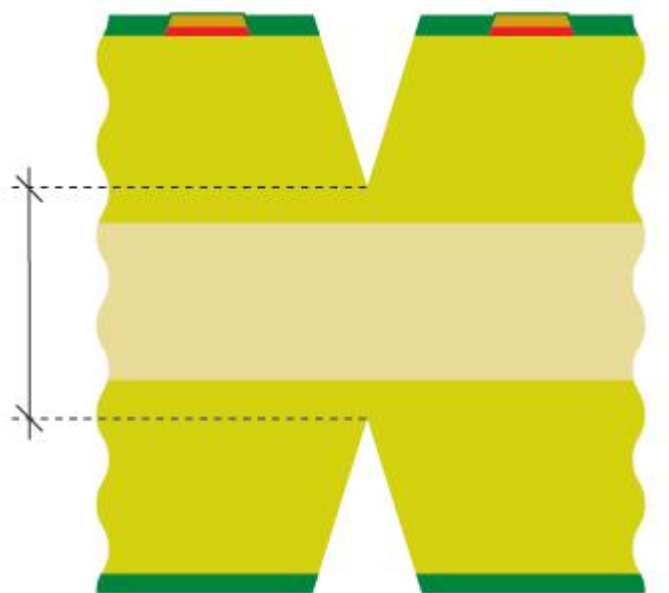
Scoring
positioning



$\pm 0,10$
mm

$\pm 0,075$
mm

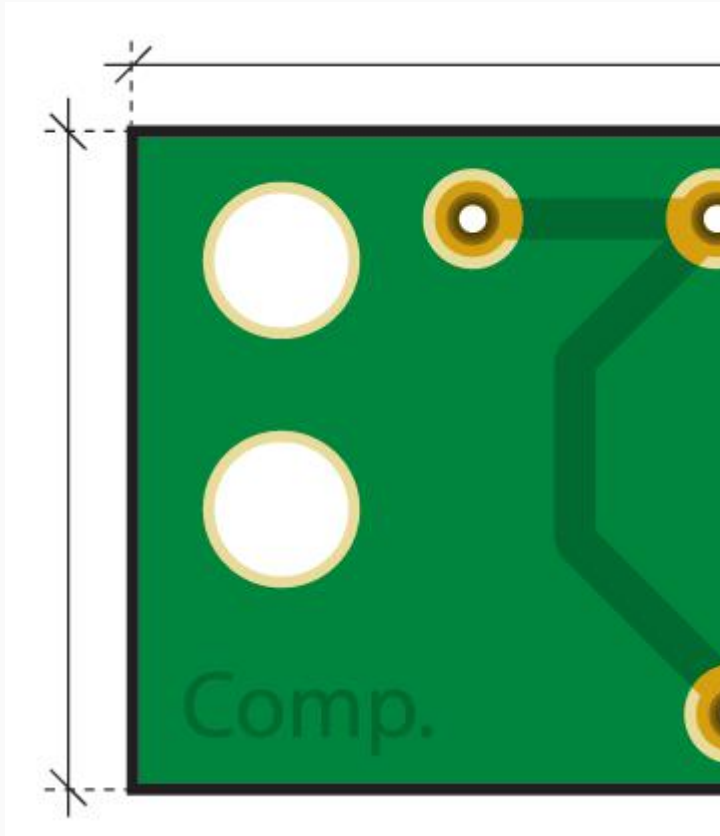
Scoring
remaining
thickness



$\pm 0,15$
mm

$\pm 0,075$
mm

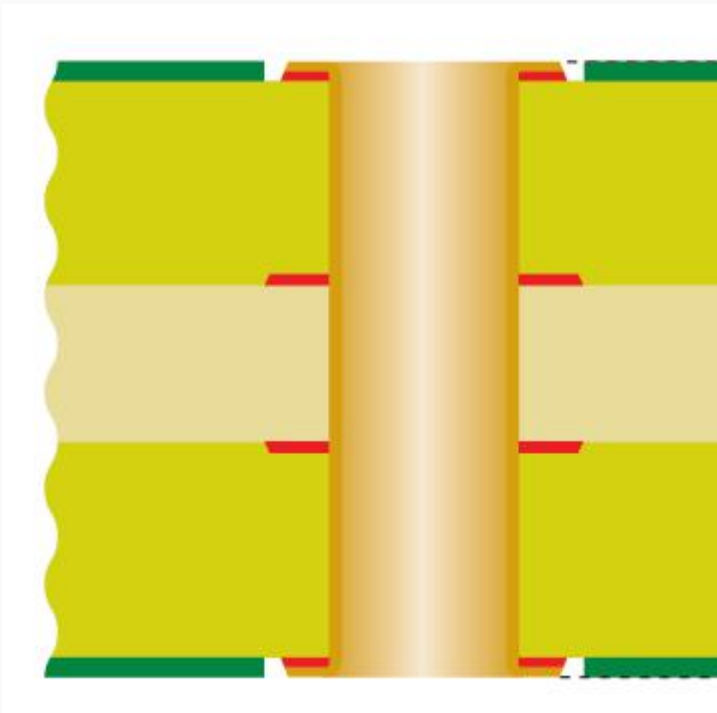
Board
d
size



$\pm 0,15$
mm.

$\pm 0,10$
mm.

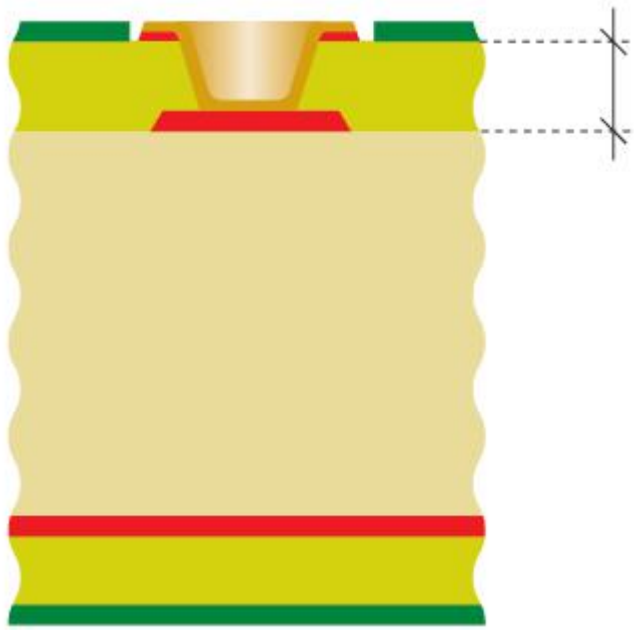
Total
thickness
tolerance



$\pm 10\%$

$\pm 5\%$

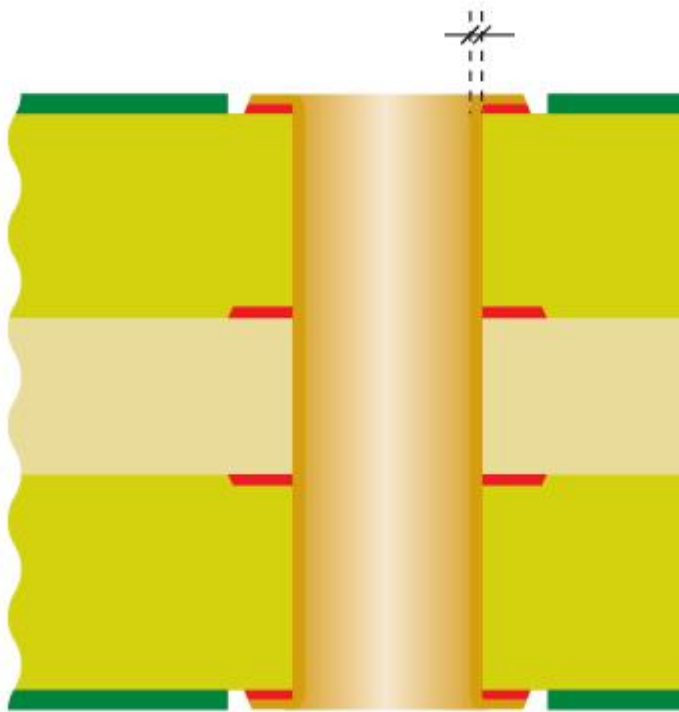
Diel
ectr
ic
thic
knes
s



$\pm 10\%$

$\pm 5\%$

Finished plated hole copper thickness

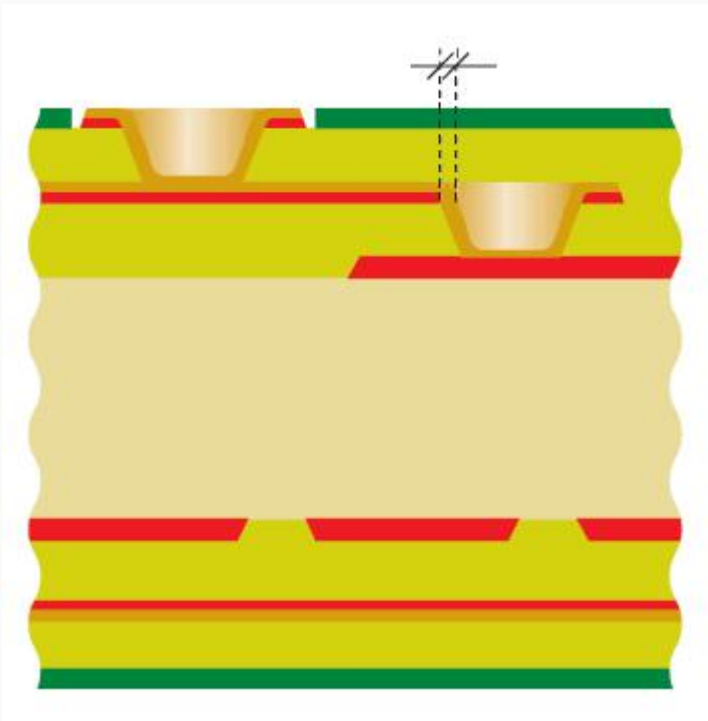


Average:
25 μm
Minimum:
20 μm

Average
: 35 μm
Minimum:
30 μm

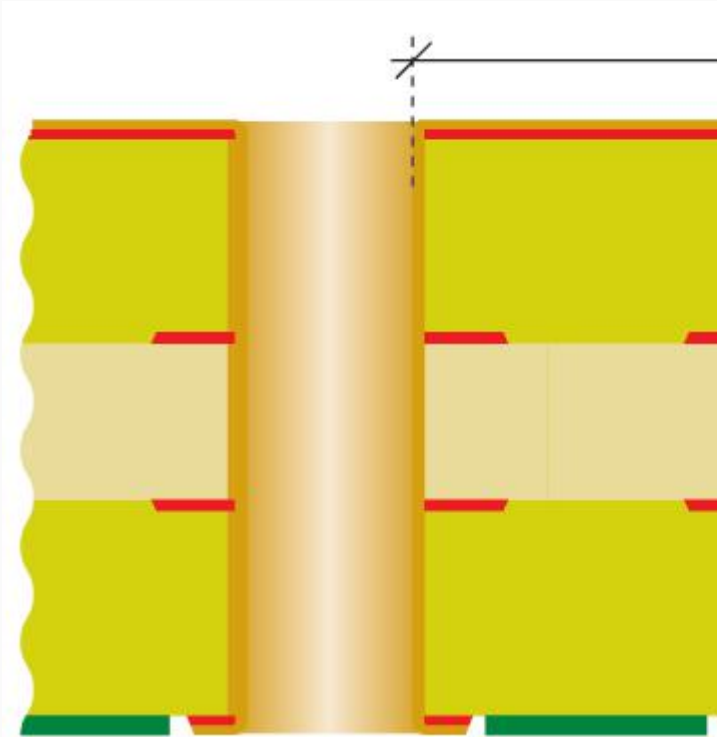
<div> Blinded/buried plated hole copper thicknesses </div>		<div> Average e: 15 μm Minimum m: 13 μm </div>	<div> Average : 25 μm Minimum m: 20 μm </div>
--	--	---	---

Microvia
Plated
hole
copper
thickness



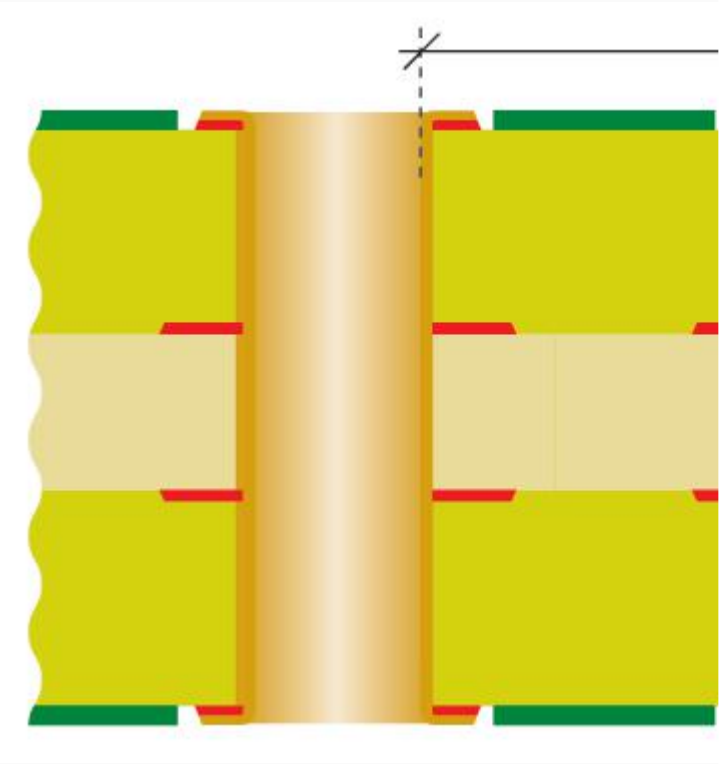
Average	Average
12	: 12 μm
μm	Minimum
Minimum	m:10
m:10	μm
μm	

Minimum wall between same net plated through

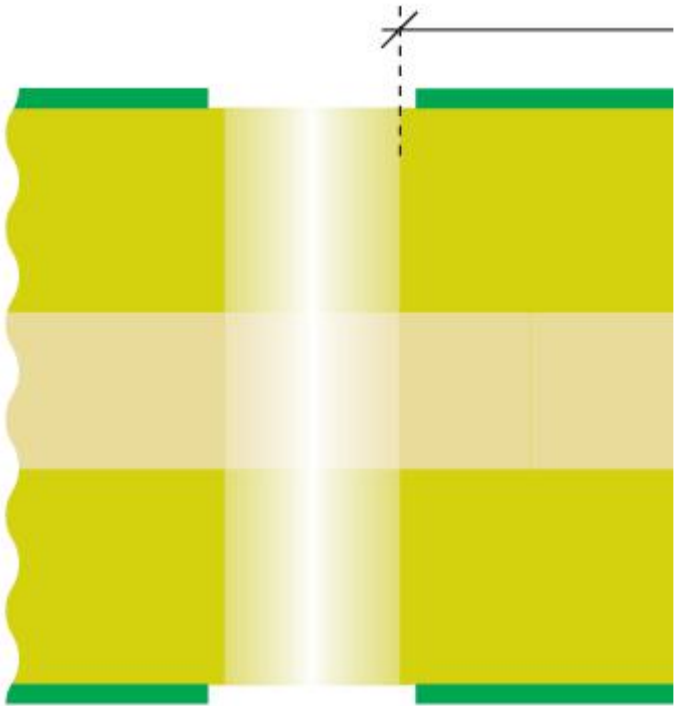


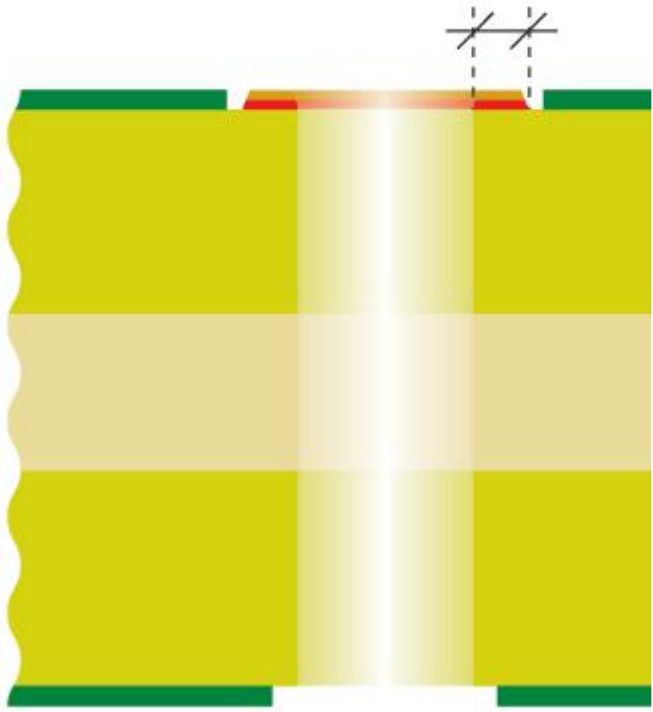
0.30
mm

0.25
mm

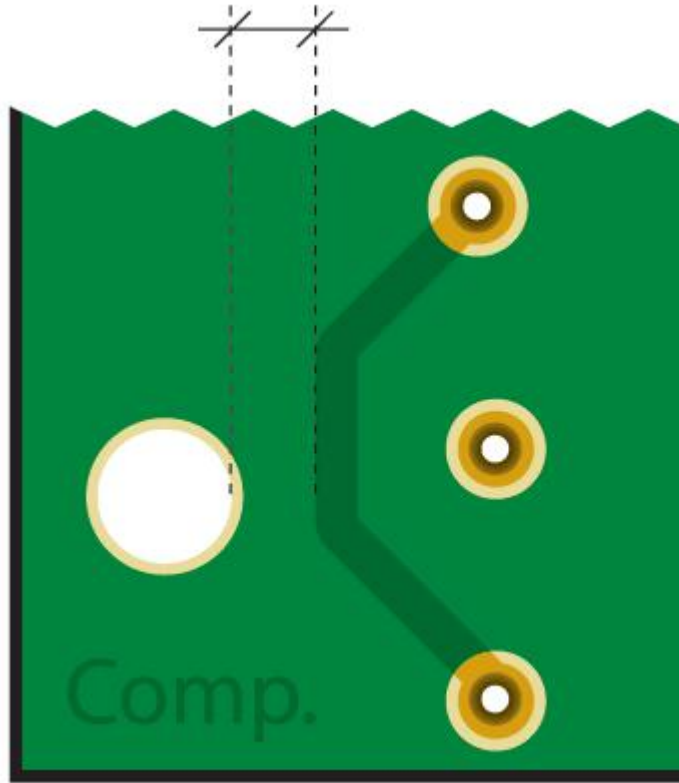
ugh hole s		
Mini mu m wall bet wee n diffe rent		0,40 mm. 0,35 mm.

net
plat
ed
thro
ugh
hole
s

Mini mu m wall bet wee n non plat ed thru oug h		0,25 mm.	0,20 mm.
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hole s			
Mini mu m ann ular ring non plat ed hole		0,25 mm	0,20 mm

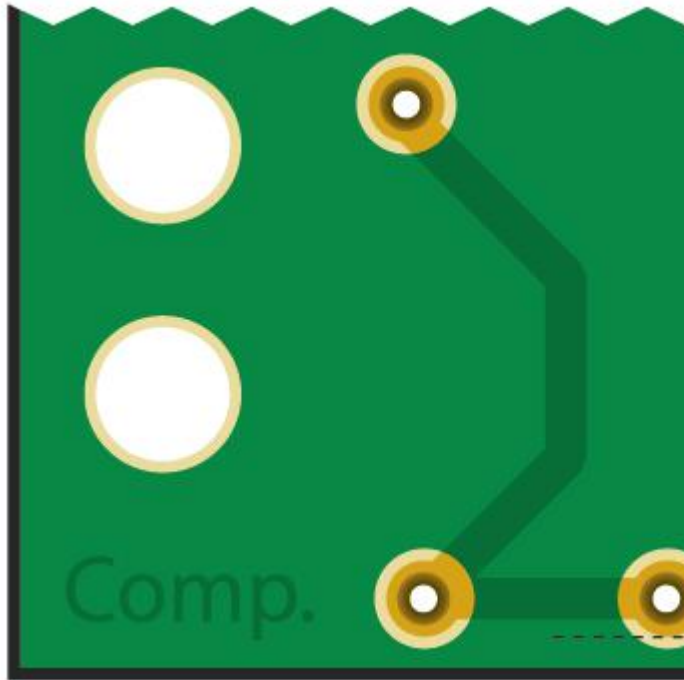
Track to non plated through hole minimum spacing



0,20
mm

0,15
mm

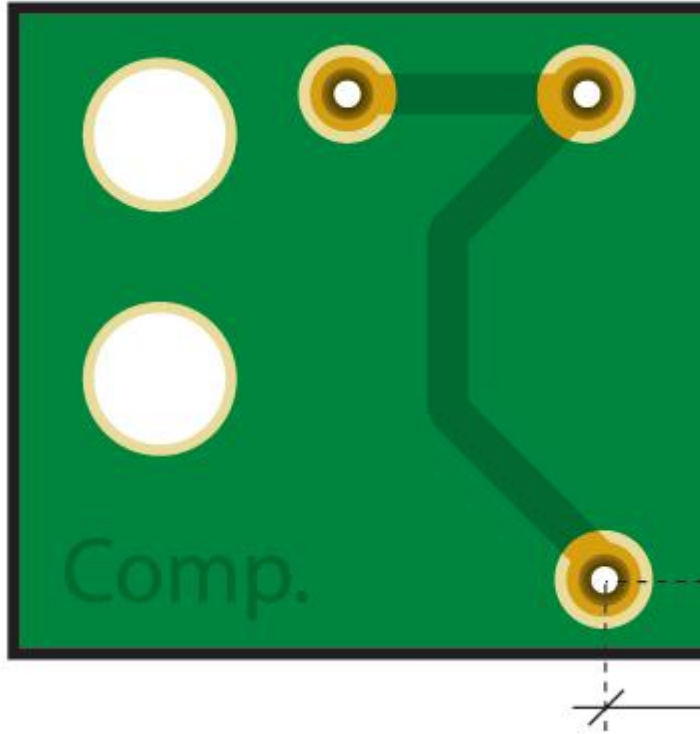
Track to board edge minimum spacing



0,20
mm

0,15
mm

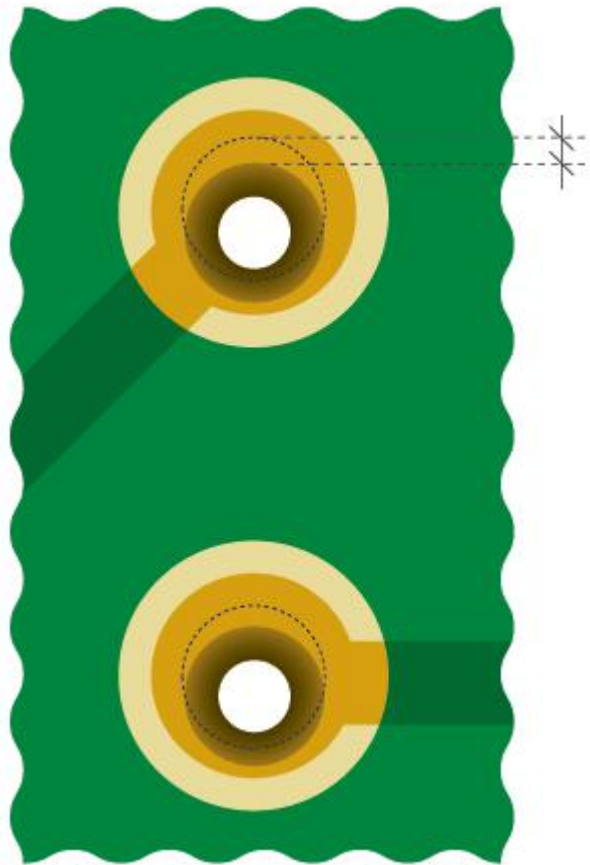
Offset
between
board
edge
and
drill



Max.
0,15
mm.

Max.
0,10
mm.

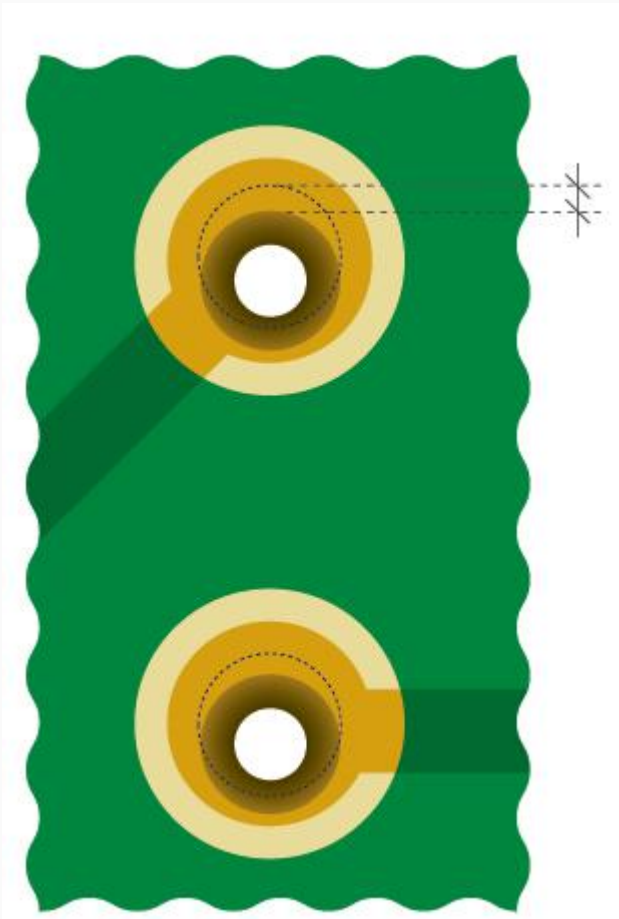
Offs
et
bet
wee
n
drill
to
outl
ayer
pad



Max.
0,10
mm.

Max.
0,075
mm.

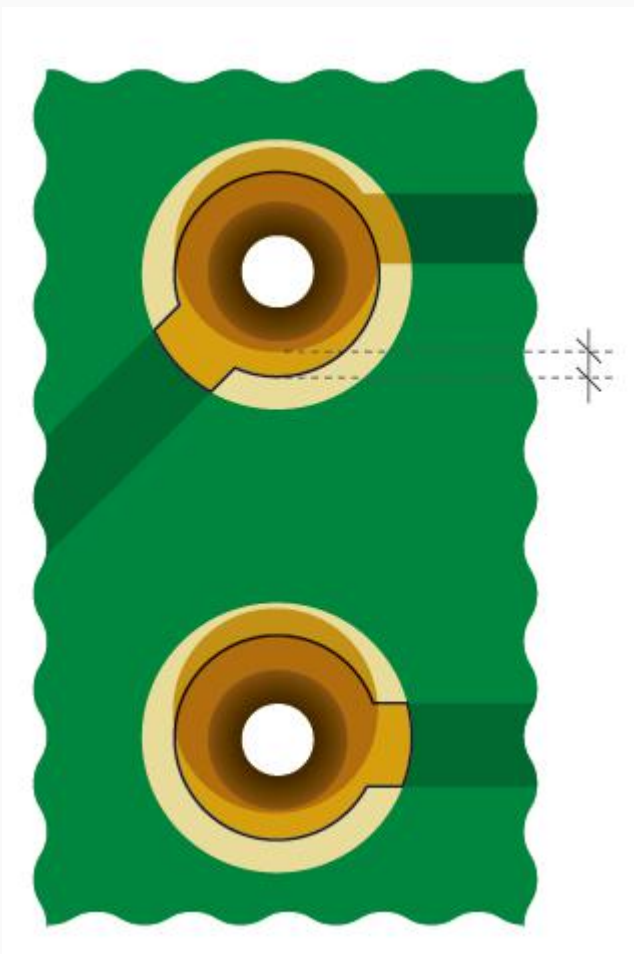
Offs
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bet
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n
drill
to
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rlay
er
pad



Max.
0,15
mm.

Max.
0,12
mm.

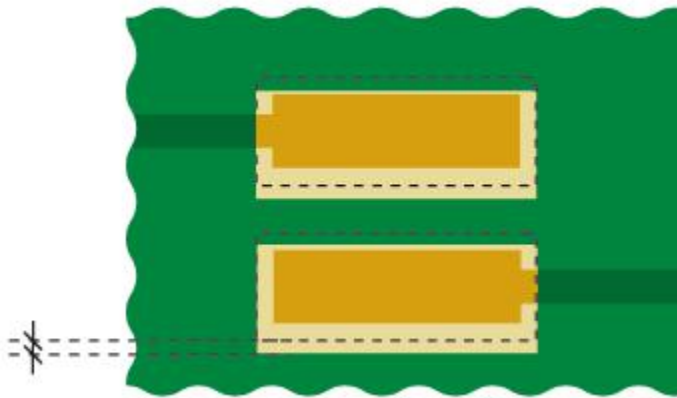
Offs
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laye
rs



Max.
0,10
mm.

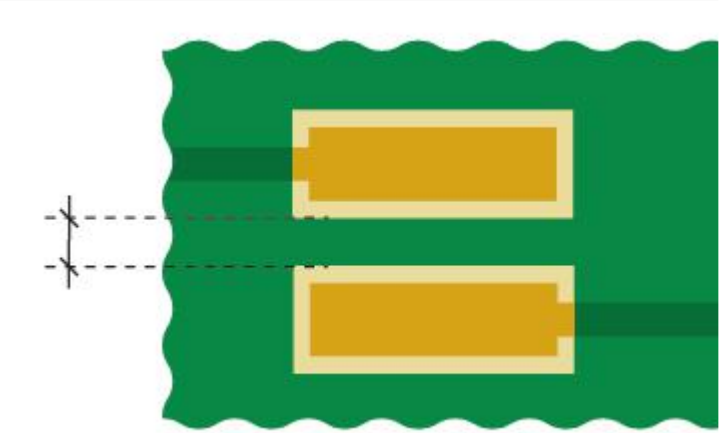
Max.
0,075
mm.

Solder mask feature tolerance

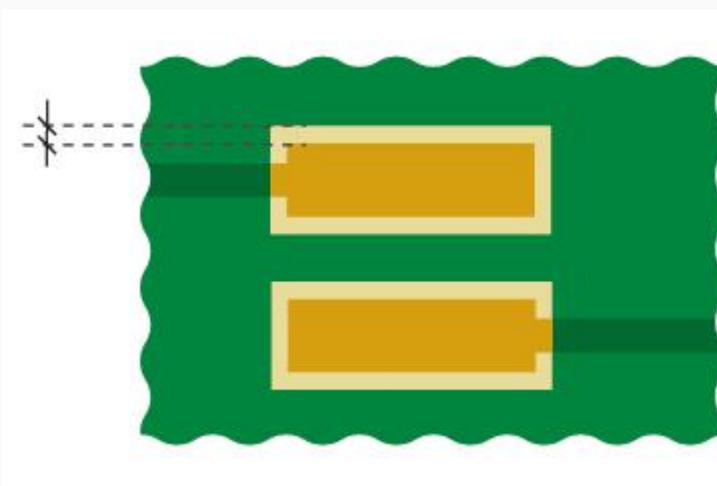


Max.
0,15
mm.

Max.
0,075
mm.

Sold		0.08	--
erm		mm	
ask		green	
min		color	
Dam		other	
size		colors	
		on	
		reques	
		t	

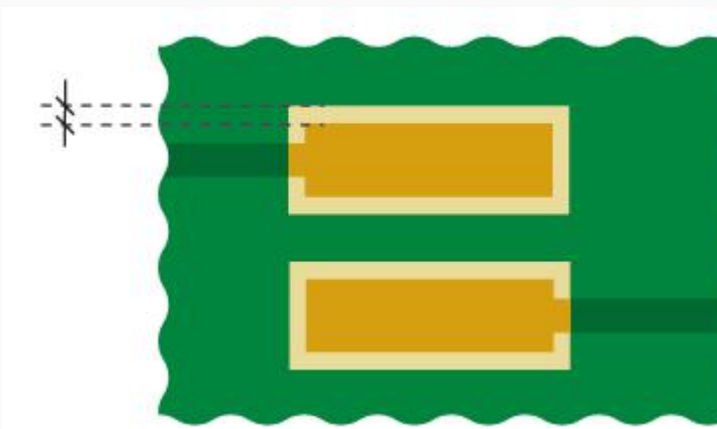
phot
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ask
clea
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0.06
mm

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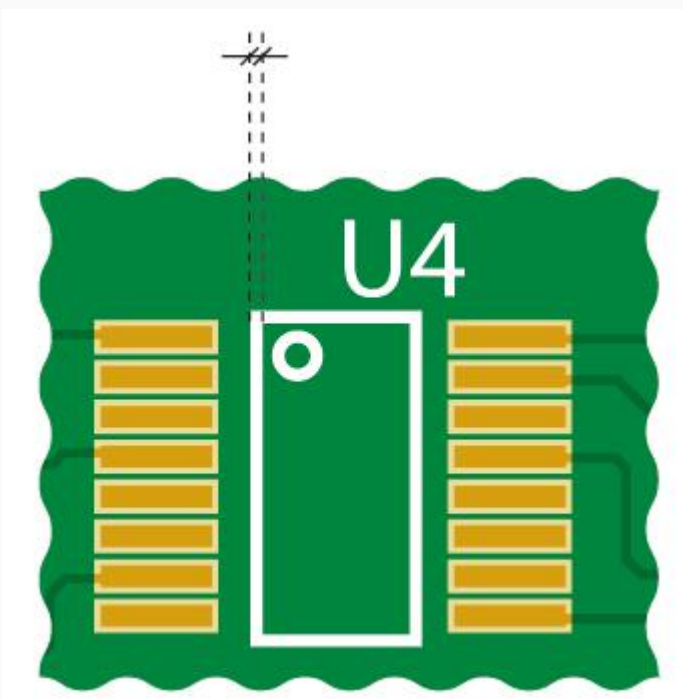
Silks
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sold
erm
ask
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e



0,20
mm

0,15
mm

Leg
end
mini
mu
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line



0,125
mm

0,10
mm

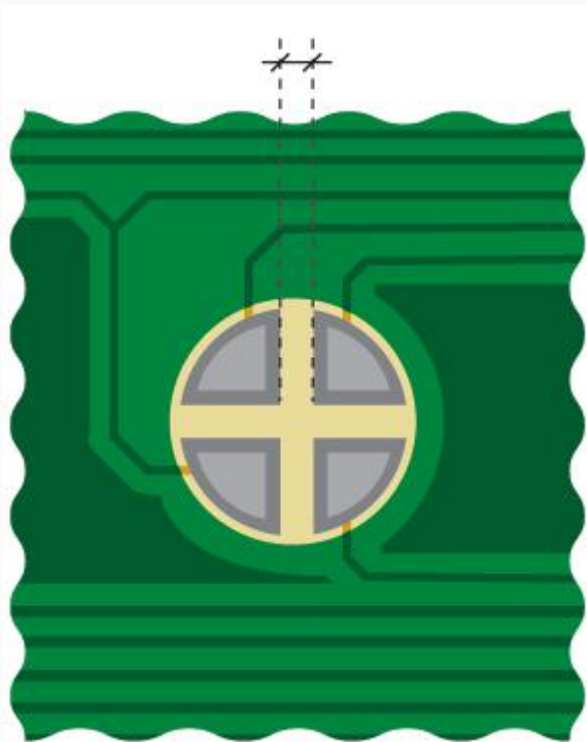
Con
duct
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0,20
mm

0,125
mm

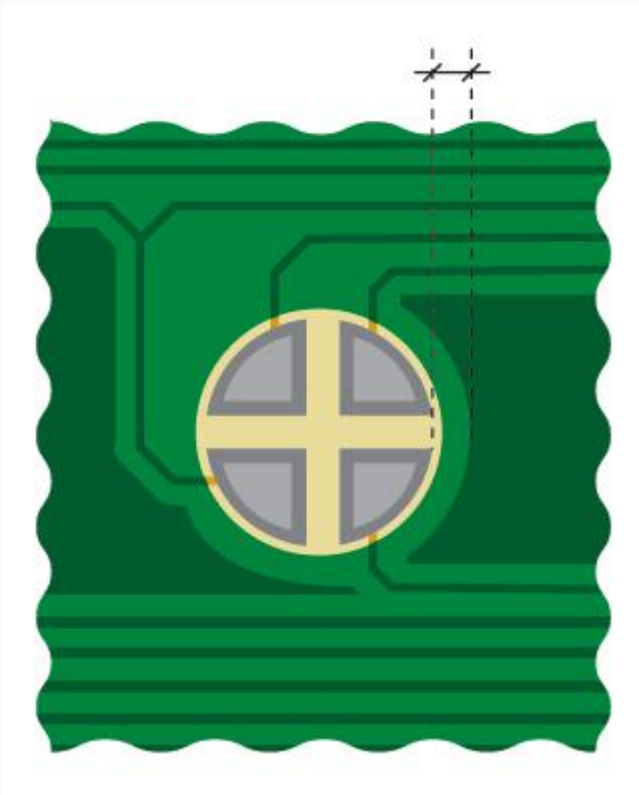
Con
duct
ive
ink
(gra
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spac
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0,50
mm

0,40
mm

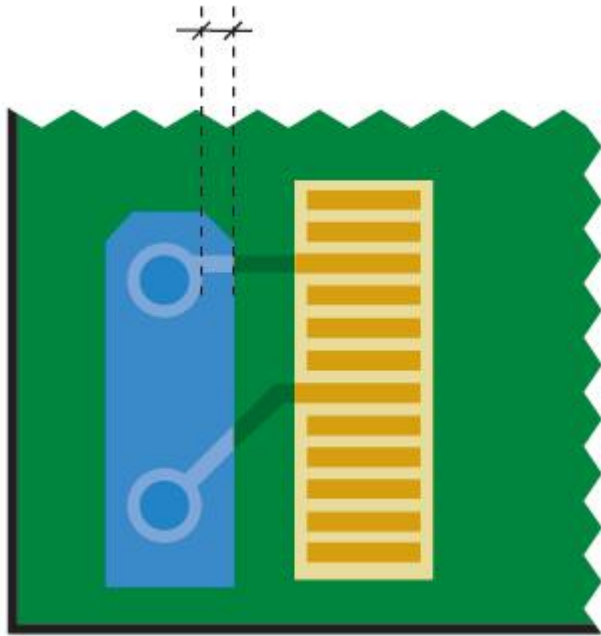
Con
duct
ive
ink
to
pad
spac
ing



0,40
mm

0,30
mm

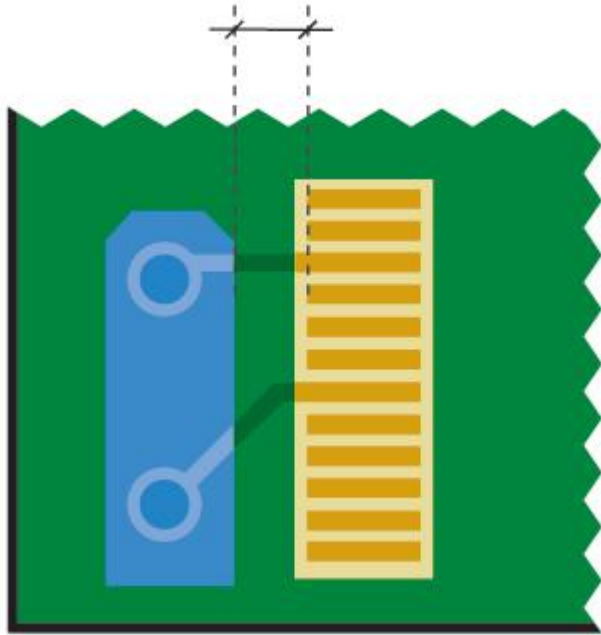
Peel
-off
mask
k
over
lapp
ing



0.8
mm

0,50
mm

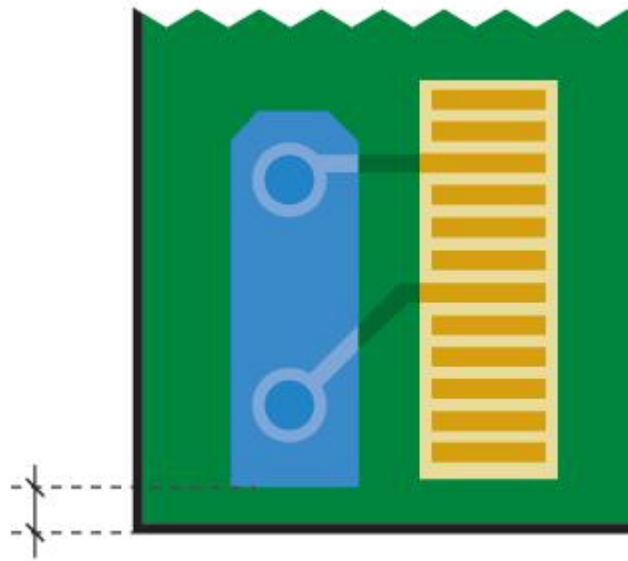
Peel
-off
mask
to
pad
spacing



1 mm

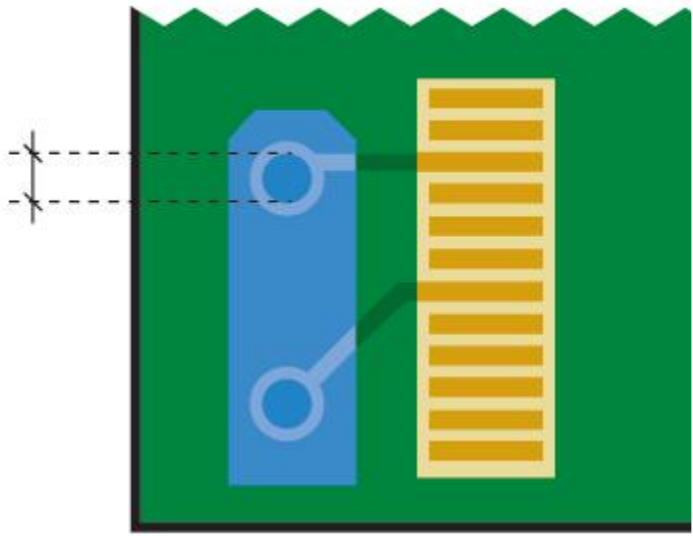
0,70
mm

Peel
-off
mask
to
board
edge
spacing



1 mm

0,70
mm

<div> Maxi mu m peel -off mas k fille d hole </div>		1.80 mm	2 mm
<div> Bow and </div>		<div> Maxim 1% </div>	<div> Maxim 0,5 % </div>

twist		
Insulation resistance	Minim 0,5 MOhm	Minim 2,0 MOhm
Continuity	Maxim 10 Ohms	-
Ioni	Max.	Max.

c cont ami nati on	1µg Eq. CINa/c m2	0,8 µg Eq. CINa/c m2
Oth er feat ures	See spec. IPC-A-6 00 Rev.G jul-04	-