

Task report on OSEM flexible circuit

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NAOJ

1. The design by Fabian
See attached PDF file.

2. Manufacturer

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3. How to order

A course) Just submit PDF, "Parts list" and "manufacturing instruction".

--> The designed pattern is delivered as DXF or Gerber formatted file.

--> If we approve the designed pattern, the flexible circuits are produced.

B course) We made electric circuit pattern by ourself.

Then, the pattern file with DXF format is supplied to the company.

The flexible circuits are produced.

4. Specification of the flexible circuit

NIKKAN INDUSTRIES CO., LTD.

F-30VC2 50RC2 1(H)

[[copper layer]] 35 um in thickness

[[adhesive]] The details are not opened.

"coverlayer"

DUPONT CISA02525 (DB)

Silk prints are available on copper layer.

Serial number is also be printed without extra fee.

5. Designed pattern

Despite of no order, I already got a pattern design as an attached DXF file.

If VIS group is approved it, ...

6. Problem on thermal design

I found a problem on this flexible circuit, the problem is thermal design of it.

In my calculation, the circuit will have temperature rise of more than 50 Kelvin at the maximum current of 0.4 Ampere.

In the worst case, LED and photodiode have the damage.

Reference: my calculation on thermal design

<http://gwdoc.icrr.u-tokyo.ac.jp/cgi-bin/private/DocDB/ShowDocument?docid=3457>

7. My recommendation

Instead of flexible (printed) circuit, wires are used for OSEM.

8. Future works

If VIS group want to make it,
I request the quotation to the company.
And then, I order it.

That's all

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