

Re: 320pin BGA Pin Layout suggestions

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- *From:* krw <krw@xxxxxxxxxx>
 - *Date:* Mon, 19 Mar 2007 23:17:01 -0400
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In article <1174349279.008603.302420@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, w3gate@xxxxxxxx says...

On Mar 19, 3:35 am, "Joe G \ (Home\)" <j...@xxxxxxxxxxxxxxxxxx> wrote:

Hi All,

I am looing at laying out 320pin BGA on a PCB like this one.

<http://www.standardics.nxp.com/packaging/package.outlines/pdf/sot824-...>

The pitch between balls is 0.5mm. The internal cpu speed is 220MHz but the external I think is ~60MHz.

It has a JTAG port

Questions

Q1

How many PCB layers would you recommend and why

Q2

Is there anything else I should watch out for?

Any other pointers on this beast would be appreciated.

Regards

Joseph

My suggestion will be a bit more practical tha others. Absolutely use no less than 6 layers. Being new to it, you will end up chewing up your ground/power planes and will have EMI issues if you try 4. Even an experienced layout guy would most likely use 6, I know I probably would unless I was using very few pins. The reason is simple: it ends up a better design. For you, it will be a less frustrating experience to learn with 6 layers and you will definitely have a better design. Don't think I am calling you incompetent, most times parts like these just aren't good candidates for 4 layer boards.

Re: 320pin BGA Pin Layout suggestions

Use a stack up as in Figure 6 here...

<http://www.hottconsultants.com/techtips/pcb-stack-up-3.html>

Thats my advice.

Got a reason, other than some hand waiving? I don't see any reason for more than five. Four might be simple, depending on the power ball layout.

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Keith

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