Cascade connection for MKY34 or MKY35

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■ Product of interest

MKY34, MKY35

■ Cascade connection for MKY34

What you should be particularly careful about in performing cascade connection for many pieces of MKY34 are described below.

There are two problems we are concerned about in performing multistage cascade connection for only MKY34. One is that when the TXD or RXD communication line is connected in series, distortion or delay of communication waveform occurs. The other is that when the CO output clock in the previous stage is simply connected to the XI input pin in the next stage in a row, there is a possibility that clock waveform may be distorted.

It is believed that distortion or delay of communication waveform over the distance short enough to be within the common-sense substrate size can be fully corrected by MKY34's powerful waveform correction capability. However, as with clock, we do not take it into consideration to route signal over a distance long enough to let failure be caused by the normal TTL level signal. It is generally said that, except high-frequency circuit, the maximum routing distance of TTL level signal is roughly 20cm; so consider 20cm as one rough indication of the maximum routing distance of TTL level signal. We have ever experienced an example in which 8 pieces of MKY34 were cascade-connected.

■ Cascade connection for MKY35

Unlike MKY34, when performing cascade connection for MKY35, you must set the addresses of pieces of MKY35 individually. Also, MKY35 is also different from MKY34 in that TXD is Hi-Z when TEX is Lo. Because of this specification, TXE is ORed and TXD is wire-ORed and thus MKY35 is cascade-connected in parallel; while MKY34 is cascade-connected in series. It is ideal that the clock is also connected in parallel from the oscillator since MKY35's CO output is fixed to Lo output during reset period when the setting of the BPSS pin is Hi. When the first-stage MKY35 makes up an oscillation

circuit, note that you must set the MKY35's BPSS pin to Lo before using the CO output.

■ Cascade connection for MKY34 and MKY35

Cascade connection for MKY34 and MKY35 is not difficult to perform if you understand the features of MKY34 and MKY35 that were described earlier. MKY35 that is connected to MKY34 can use MKY34's OA output address, and so you can reduce the number of necessary parts compared to cascade connection of only MKY35.

Regarding the communication line, consider MKY34's TXDN, TXEN and RXDN as the driver/receiver's TXD, TXE and RXD pins, respectively. Considering that MKY35's TXD has 3 states, you need to pull down the line that is connected to TXDN. When there exist multiple pieces of MKY35, wire-OR them. Similarly, connect TXE to TXEN via an OR gate.

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