Parallel Interface (Single Site)

The parallel interface supports handler to tester communications. The handler signals the tester when the device is ready to be tested by asserting the start of test (SOT) signal. After test completion, binning information is sent to the handler indicating to which bin to assign the device, along with the end of test (EOT) signal. The parallel interface can only be used in the test process; it is not possible to communicate handler configuration or statistics on this interface.

The only signal from the handler to the tester is the SOT. This signal is sent when a part is presented to the testsite. It can be set as a steady state level or pulsed. The operator can enter the pulse width as a value in 10 milliseconds from zero to 1000 milliseconds. In steady state, the signal level is returned to its inactive state when the EOT is received by the handler. The time delay for the initiation of SOT after the part has been contacted can be entered by the operator in 10 millisecond increments from zero to 1000 milliseconds. Both of these values are dependant on the tester's requirements.

There are three types of signals going from the tester to the handler: end of test (EOT), sort lines, and reprobe. After the test has been completed, the tester asserts the sort lines or reprobe immediately followed by an EOT signal. When the EOT is received by the handler, the binning or reprobe information is strobed (locked in). The binning command sets the category of the part, eventually controlling into which bin the part is placed. The EOT signal is ignored if the handler is not waiting for it.

Binning Command Interpretation

The binning command can be interpreted in two different ways depending on the binning type selected.

If the `single line` command is selected, then each line is dedicated to a different category. There are 15 lines available, so the device can be put into categories 1 through 15. If only an EOT is received, then the device is placed in a retest tray. If more than one line is active when the EOT is received, the lowest active line will be used as the category.

If the `multiple line` command is selected, the lines 1 through 7 that are asserted when the EOT is received will be interpreted as a binary category. Only 1 through 99 are recognized as valid; numbers greater than 99 will be flagged on the interface screen. If only an EOT is received, the device will be put into a retest tray. If only the reprobe line is asserted, the contactor will reprobe the part and an SOT signal is generated.

8/21/2001

Polarity

The handler has both an active low (negative logic) and an active high (positive logic) on two separate lines. The choice of which line to use is determined by the polarity setting on the tester. The logic of the handler must match that of the tester.

The polarity is set by using either the POSNEGLOGIC command, or by selecting the Polarity button in the Parallel Interface Configuration area of the Interfaces screen. See "Interface Screen" on page 4-27 of User Screens.

The polarity of the signals sent from the tester to the handler, EOT, sort 1 through 15 and reprobe, can also be active low or high.

The reprobe and sort signals must be stable for a minimum length of time – beginning 100 microseconds *before* the EOT signal goes low until at least 100 microseconds *after* (Figure 6-5). The reprobe and sort signals must not fluctuate during that time period.

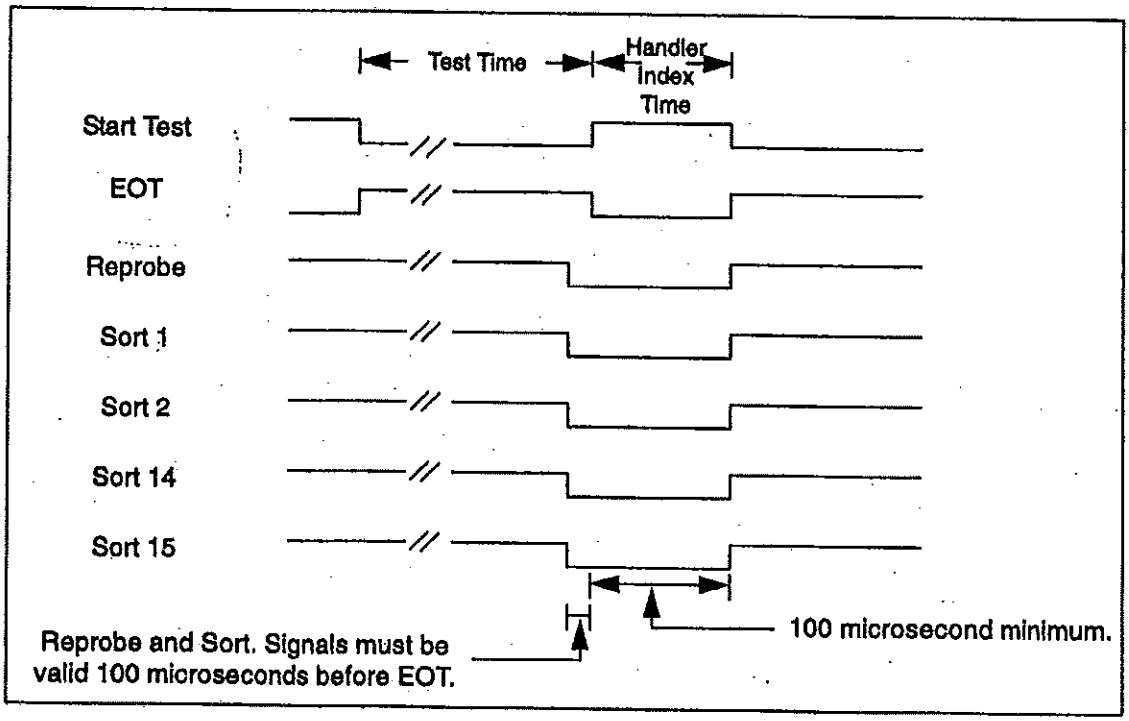
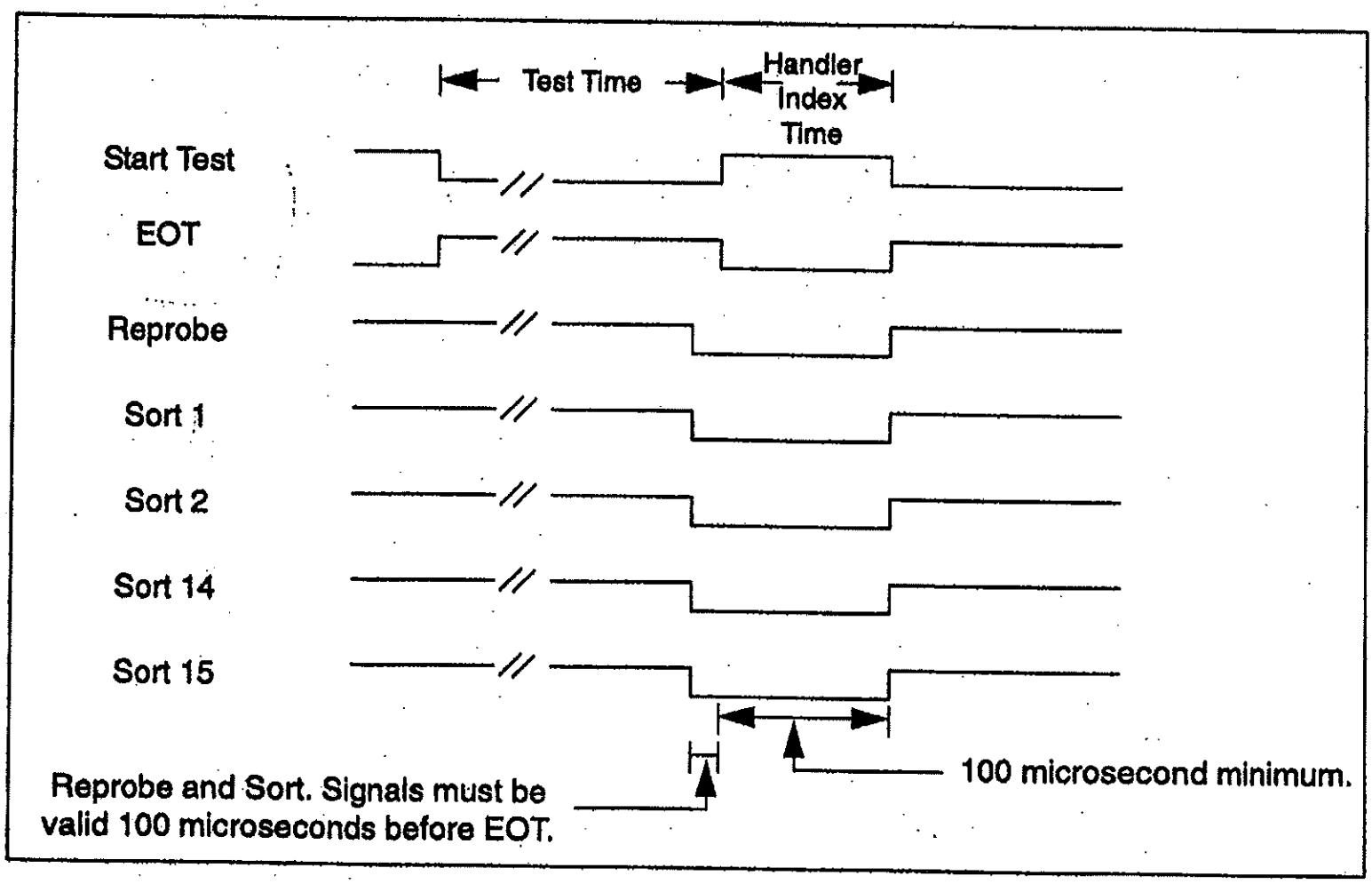


Figure 6-5. Timing Diagram for Parallel Interface


Test Time
Handler Index Time
Start Test
EOT
Reprobe
Sort 1
Sort 2
Sort 14
Sort 15
100 microsecond minimum.
Reprobe and Sort. Signals must be valid 100 microseconds before EOT.