ASDBLR99 Production Tests

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DC Test

The DC Test sets both the high and low thresholds to 3 volts and measures the current on all 16 output pins. Then both thresholds are set to 0 volts and the current is, again, measured on all 16 outputs. All 32 output currents and the +/- 3Volt supply currents are recorded in a data file. For testing purposes the output current is slightly increased to produce a nominal ~2mA max swing.

Low Pulse Threshold Value Test

With the high threshold set to 3 Volts (Max off), 200 pulses are injected into the input and the output pulses are counted. The Low threshold pin is adjusted and the test is repeated until a 50% trigger rate is measured on the output (i.e. 200 pulses in - ~100 pulses counted on the output) Each channel is tested individually with ~2fc, ~3fc, and ~5fc input charges. The low threshold voltage that is set on the low threshold pin to give a 50% trigger rate is recorded in the data file for all channels for all 3 input charges.

High Pulse Threshold Value Test

Almost identical to the Low Pulse Test, The High Pulse Test sets the low threshold pin to 3 Volts (Max off) and adjusts the high threshold pin until a 50% trigger rate is measured on the output. This test is performed with a ~30fc and a ~50fc input charge. The high threshold voltage that is set on the high threshold pin to give a 50% trigger rate is recorded in the data file for all channels for both 30 and 50fc input charges.

Test Time

If a chip passes all DC tests and the pulse test cannot find a 50% trigger rate on a channel, the test program does its best to try and find the cross over point where the outputs change state. This increases test time dramatically and is a clear sign of a problem so the test time is recorded as well in the data file.