DUT1 and DUT2 are the transistors being tested for matching. The e, b, and c of DUT1 and DUT2 transistors should actually come out to a test socket.

For the most accurate differential gain you must hand pick the 10K and 100K resistors in this differential amp to be as close as possible to the actual values of 10K and 100K. You must measure and select them from a batch of resistors as average 1% resistors will not be precise enough.

For the most accurate window comparator the 100K resistors must be as close as possible to the target value. An average 1% metal film 330 ohm will work fine.

It is VERY important to null the op-amps in the differential amplifier. When all are nulled properly and with no transistors in the sockets the green LED should be on and the output of U5 should be 0V +/- 1mV.

Buy the 1% metal film resistors in bulk so you have plenty to choose from during matching. This circuit is attempting to find the difference within 2 millivolts so matching where specified is very important.

Power supply bypass caps.

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