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Component Failure Analysis using a Huntron Protrack / Access / Scanner System

Failure analysis laboratories are finding Huntron's unique signature analysis capabilities very handy for analyzing part faults due to ESD/ EOS, over-current, over-voltage, and thermal stresses. Whether you are performing design verification testing of newly designed parts or determining failure mode after a part has been returned from a customer. Whether the part is out of circuit or on a PCB with other components, Huntron can help you diagnose and characterize the problem.

Huntron's powerful Protrack I Model 20 supplies a current limited AC sinewave as test stimuli, digitizes the return sinewave, and converts this information to a voltage-current health "signature". Consider the following figure. The horizontal axis represents the resultant voltage (the signature can indicate bias voltage both in reverse and forward bias). The vertical axis represents the current. In figure 1, you see two different signatures. The green signature has been captured from the pin of a "known good" integrated circuit. The red signature has been captured from a suspect or bad part. It is obvious that that the junction has been blown and the semiconductor no longer has an "OFF" state. Current is flowing, damaging other components down the line (if populated on a board).

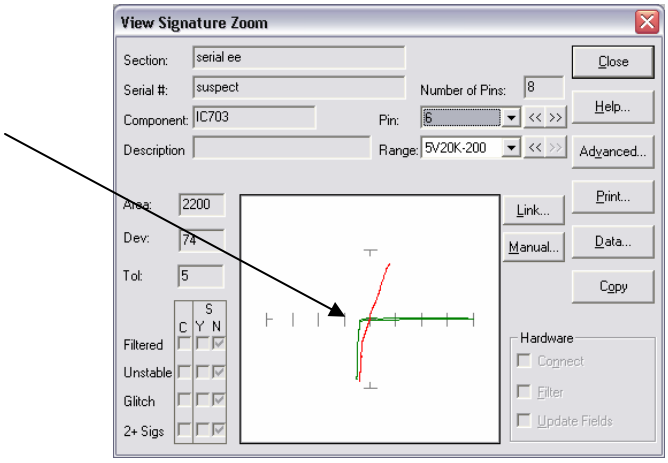

Figure 1.

Huntron's Scanner Accessory allows for the component (or board) to be connected and will allow for up to 128 pins to be scanned at a time without operator intervention between pins. There are two (2) ZIF sockets to allow for parts out of circuit and two (2) IDC connectors to connect your board. Again, 128 signals can be captured, digitized, and compared.

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Huntron's 4.0 Software allows for the characterization of "known good" models for the components that are to be tested. This software suite will also compare multiple models (denoted by serial number or time/date stamp) to be compared to one another. Consider Figure 2.

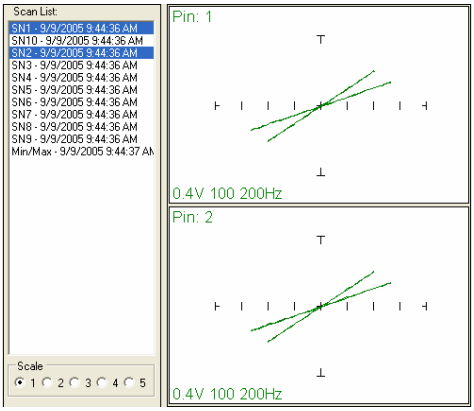

Figure 2.

The software package also contains tools to record Bill of Materials information as well as failure reporting capabilities.

For more information on how Huntron can help you with part failure analysis, please visit our website (http://www.huntron.com) or contact us at 800-426-9265, email info@huntron.com.