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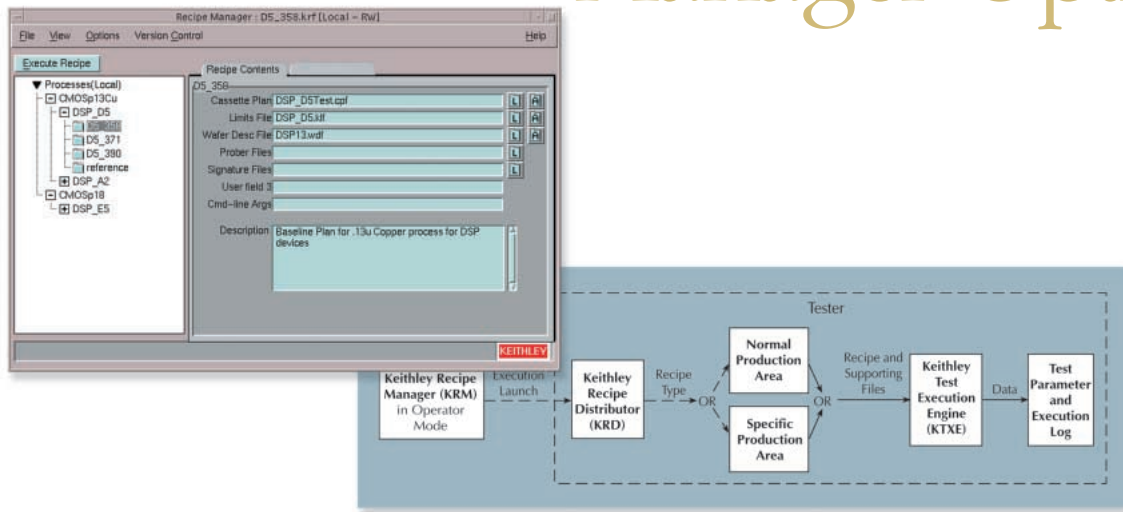
Keithley Recipe
Manager Option

Too many cooks spoiling your recipes?

A parametric test system is only as good as the test recipe your operators run on it. The wrong recipe will produce inaccurate results and waste valuable tester capacity. You need tools that help you create and modify recipes quickly, while ensuring that only approved recipes are released to your testers. That's why we created the Keithley Recipe Manager Option for S400 and S600 Series testers running the Keithley Test Environment (Version 4.2 or higher).

This production-worthy package helps test program developers generate valid test plans quickly by allowing them to modify existing test plans easily for reuse. By providing the version control tools needed to prevent unintentional, undesired, or undocumented code changes, it also ensures only approved test sequences are released to production. KRM is ideal for synchronizing multi-tool, multi-fab, or joint venture production efforts because it allows easy bundled distribution of approved recipes and associated files to all testers, regardless of location. If a lot's functional test results are suspect or there are excessive field failures, KRM's traceability tools make it easy to determine whether the proper test recipe was used.

Are your operators getting the support they need?

While KRM's Engineering Mode supports generating and releasing recipes, the Operator Mode provides the tools operators need to choose and execute the correct test plan for the lot. With one click, they can choose the right plan from the Recipe Navigator, which organizes processes, product families, and recipes graphically. When the operator clicks the "Execute Recipe" button, the selected recipe is loaded from the production directory and the Keithley Test Execution Engine (KTXE) runs automatically, generating test results. The client/server architecture of multiple testers connected to a single system server or host ensures each tester is running the same released test plan from the recipe server. When a recipe and/or support file is revised and approved, it is automatically integrated into all the testers' production directories at the start of the next lot to be tested.

Are you getting the tester productivity you've paid for?

Error-free testing translates directly into better control over your processes. KRM's recipe manager and version control capabilities can help you increase tester utilization significantly, while preventing further processing of nonconforming wafers and keeping defective devices from being packaged and shipped.

KRM–The Solution to your Recipe Management Challenges

Challenge:

"I need to transfer my 0.18μm Cu CMOS process seamlessly from my 200mm fab to my 300mm fab. How can I make sure that the testers in my 300mm fab are running the same parametric test plans as my 200mm fab so that I can correlate results?"

Solution:

KRM makes it easy to transfer the recipe and all its associated files in a single bundle to the 300mm fab. Once there, engineers can test out the recipes and compare results with those from the 200mm fab. After that, it's simply a matter of changing the wafer description file to add more die for the larger wafer size.

Challenge:

"The fab only got 20% yield at final test due to a GOI problem. How can I add a new gate leakage test to all my test plans quickly?"

Solution:

KRM makes it easy to modify an existing test plan, approve it, and distribute it automatically. The test programmer simply checks out the appropriate recipe from the Archive, and then adds the code for the gate leakage test to it with KRM. Next, the programmer uses the software's version control functions to check the recipe back in, validate it, then release it to update the Archive, and then to all the tester production directories for use in subsequent testing.

Challenge:

"How can I make sure our operators run the right cassette plan with the right wafer descriptor file so we don't have to re-probe?"

Solution:

When a new or modified recipe is released to production, all its associated files (cassette plan, wafer description file, limits file, etc.) are bundled in a single file and automatically shipped to all testers, so the operator can't choose the wrong file, preventing the need for rework.

Challenge:

"The customer is complaining of product failures in the field. How can we verify we ran the right tests on the batch?"

Solution:

Whenever the Keithley Test Execution Engine (KTXE) runs a recipe to test a wafer lot, it automatically adds an execution log to the output file. This execution log records all the files and file versions that were used when executing the tests, providing a traceable record for use in failure analysis.

Challenge:

"This new test is producing strange results; can I revert quickly to our previous good test plan?"

Solution:

The KRM Archive stores all previously approved versions of a recipe and its supporting files. By using a "Specific" recipe rather than the "Normal" production recipe, you can rerun an earlier version of the test plan, then compare results of the old test with the new one. That makes it easy to determine if the results are due to an error in the test or an actual processing problem.

Challenge:

"If someone has modified the test, I need to know who, why, and how."

Solution:

KRM provides built-in accountability for modifications to recipes and associated files. Before an engineer can modify a file, it must be checked out of the Archive and a copy loaded onto the engineer's local directory. KRM places a lock on the Archive copy so no other developer can concurrently modify that file version. When the revised file is checked back into the Archive, it carries an "audit trail" that indicates who modified it and when. The Engineering Mode's "Compare" tool makes it easy to determine the differences between two different versions of a recipe or supporting file by recording the changes in a special difference file.

For more information on how the Keithley Recipe Manager and Version Control option can help you reduce testing errors and increase your tester productivity, contact your Keithley sales manager.

ERROR-FREE TESTING

Learn more at 1.888.KEITHLEY or www.keithley.com

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A GREATER MEASURE OF CONFIDENCE