

# PVT Corner Package



## Product Benefits:

- Systematic and consistent flow for PVT Corners based design
- Reduce PVT corner simulations using sampling methods

**PVT Corner Package** enables designers to utilize a systematic and consistent flow to design to digital (global) process models provided by the foundry/internal fab. The package provides an Analyze, Identify and Fix flow that improves a designers efficiency relative to the traditional methods that often include Ocean scripts, LSF wrappers, shell scripts, etc.

Increased circuit complexity and smaller geometries, combined with environmental, operating load and other variables is leading to a dramatic increase in the number of PVT corner simulations that are required in order to achieve a robust design. The PVT Corner package can be used to reduce the combinations to a minimum critical set that provides the desired coverage. Used in conjunction with the sensitivity analysis applications, the Reduce PVT Corners application can determine the most impacting design variables and provides the designer with the information required to make the necessary changes.

```

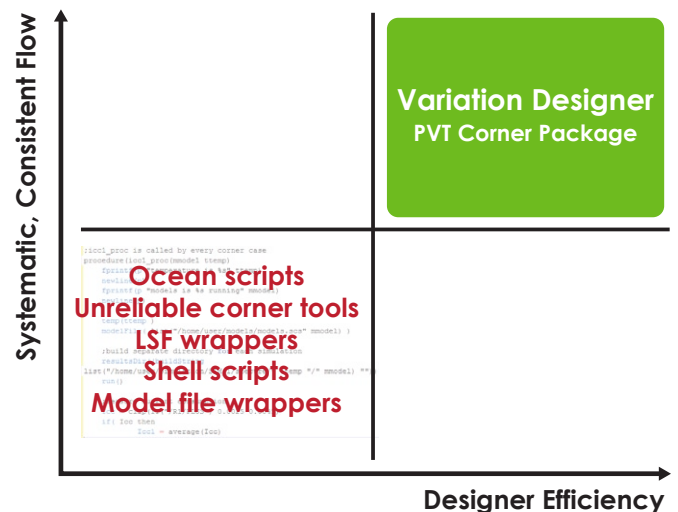
For Temp = -50, 27, 150 {
  For Vsupply = 1.62, 1.8, 1.98 {
    For Cload = 0.01, 0.1, 1 {
      For Rload = 50, 100, 200, 500 {
        For Variable1 = 2.25, 2.5, 2.75 {
          For Variable2 = 1, 5, 10 {
            For Digital Corners = SS, FF, SF, FS, TT {
              run SPICE simulation
            }
          }
        }
      }
    }
  }
}
    
```

**Simulations:**  
 $3*3*3*4*3*3*5 = 4860$

PVT combinations example

Application	Description and Benefit
Reduce PVT Corners	<ul style="list-style-type: none"> <li>• Analyzes PVT corner combinations depending on sampling option selected</li> <li>• Enables an accurate, efficient and faster corner based design flow</li> </ul>

	Corner Design of Experiments (sampling methods)	
	Orthogonal	Factorial
<b>Number of Simulations</b>	$m + 2n$ m = # of model sets n = # of variables	$m*n1*n2*n3...$ m = # of model sets n* = # of values for variable
<b>Coverage</b>	Main effects only, no interactions	Main effects only and all interactions



Systematic, consistent flow increases designer efficiency

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