

# Flip Chip Trade Off Cost Model

The Flip Chip Trade Off Cost Model is designed with a simple philosophy: Maximize the number of optional inputs while minimizing the number of required inputs. This tool allows customers to use the same model early in the design with a few parameters compared with later in the design when all the package details are known. The model is a result of a joint project between TechSearch International, Inc., the leading market research firm in semiconductor packaging and assembly trends, and SavanSys Solutions LLC, the leader in electronic manufacturing cost modeling. The model is a comprehensive activity based model including die preparation, substrate fabrication, and package assembly and its accuracy has been validated using dozens of industry data points.

Use the estimator to:

- Accurately quantify the cost of technology choices—layer structure, package size, design rules, materials, etc.
- Trade off manufacturing locations for assembly and substrate fabrication

Choose the best location to optimize your cost:

- Obtain the “should cost” value for your package
- Understand and manage your detailed costs— labor, material, capital, tooling, and yield impacts—for every step in the substrate fabrication and assembly process

An optional enhancement is to create a model calibrated to a specific supplier (internal or external). Our team of professionals can work with you to calibrate the model or work directly with the supplier to create a supplier certified model.

The list of model parameters is as follows:

Manufacturing location/labor rate

Lot Size

Annual/Lifetime volume

Wafer probe yield

Factory utilization

Estimate wafer bumping?

CSP strip size

Panel length/width

Package size

Package I/O count

Substrate structure

Die length/width/thickness

Die cost

Die pad pitch

Line and via design rules

Stacked vias

Surface finish

Material

Core thickness

Laser via count

Capacitor count

Capacitor cost

PTH count

BGA pitch

Lid

Stiffener

Thermal interface material

Allocated overhead/profit

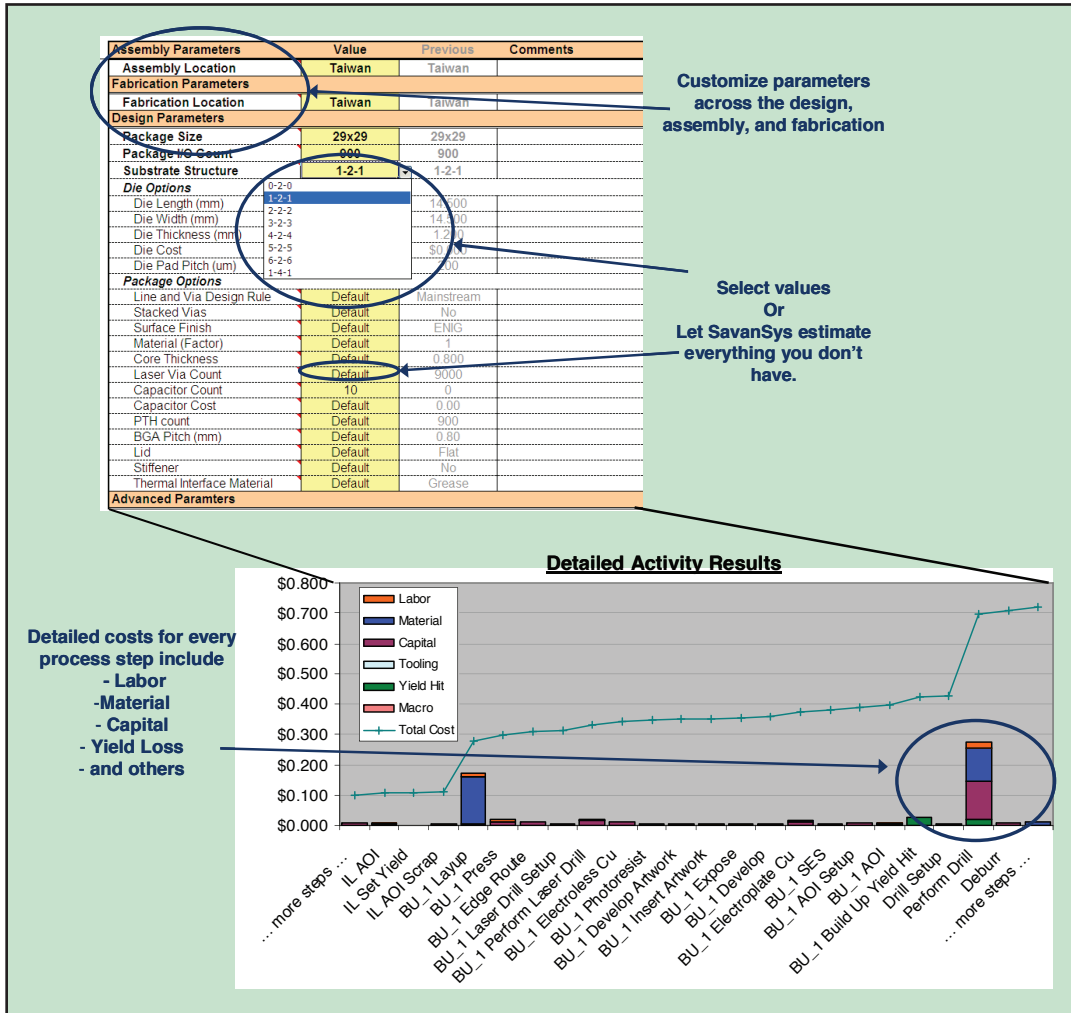
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Name: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Ship to Address: \_\_\_\_\_  
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Email: \_\_\_\_\_  
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Purchase Order Number: \_\_\_\_\_  
 AMEX, Visa, MC, JCB: \_\_\_\_\_  
 Annual Model Price: \$ 2,500.00  
 Total Amount: \$ \_\_\_\_\_

Exp. Date: \_\_\_\_\_