



Nichia NCSW119 LED Reverse Costing Report

System Plus Consulting - November 2010

Physical Analysis of the Device Step by Step Reconstruction of the Process Flow Cost of Manufacturing and Estimation of Selling Price

System Plus Consulting is proud to publish the reverse costing report of the NCSW119 White LED supplied by Nichia. Based on a complete teardown process, the report provides an estimation of the production cost as well as the selling price of the component.

- The Nichia NCSW119 is a white LED and have a typical brightness of 130lm with a consumption of 1.15W at 350mA.
- The component is provided in a specific 2-pins package, compatible with SMT process.
- It can be used in a wide range of lighting applications, including: Architectural lighting, Residential lighting, Task lighting, Decorative / Pathway lighting...
- This report provides complete teardown of the LED with:
 - Detailed photos
 - Material analysis
 - Schematic assembly description
 - Manufacturing Process Flow
 - In-depth economical analysis
 - Manufacturing cost breakdown
 - Selling price estimation

Item	Cost	Breakdown	Cost	Breakdown	Cost	Breakdown
Raw Substrate Cost (Sapphire)						
Patterned Substrate						
Epitaxy Cost						
Other FE Cost						
FE Yield Losses Cost						
TOTAL Front-End Cost						

FE : Other FE Cost Breakdown

- The main part of the wafer cost is due to the Raw Substrate Cost (Sapphire) in the "Medium Yield" version. This is due to the yield () for the medium scenario) and to the high cost of the Sapphire epi-substrate ().
- The materials are also important in the "Medium Yield" version. The gold used for the contacts is mainly responsible of this value.

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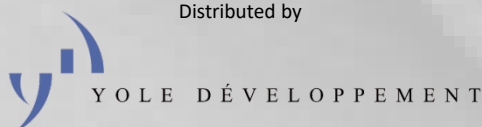
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