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Thesis Title : The Study of Payback Period in an Integrated Circuit
Manufacturing by Using Nickel and Palledium Leadframe
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Abstract

Semiconductor industry is of the highly competitive circumstance both inside and outside competitors of the country. Process efficiency improvement is one of a strategic key to make business survive by reducing operational cost. In general, package cost consisting of direct material, labour, machine and overhead. Total 35-40% of total package cost are come from direct material and especially leadframe ,one of seven major direct materials, is the major material which effected to package cost. The thesis concentrates on a cost reduction program by using a new leadframe from Copper Leadframe to Nickel and Palledium Leadframe. Here, Wet Process consisting of M-Pyrol & Deflashing and Soldering & Plating will be eliminated. Package cost will be reduced 6-8% after implementation. This program helps to slash out the Wet Process operational cost which would deliver financial saving of US\$ 1,512,236 in the year 2000. It requires capital investment of 3 Trim & Form (T/F) machines which costs US\$ 1,200,000 upon the pay back period of 9.5 months. Linear Programming is applied to analyze the optimum production volume, the calculation result of volume and net profit comparison indicated that the volume increment of 14% in year 2000 and 17% in year 2001-2002 of package DIP20-01 are making net profit increasing 5% by using Linear Programming.



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