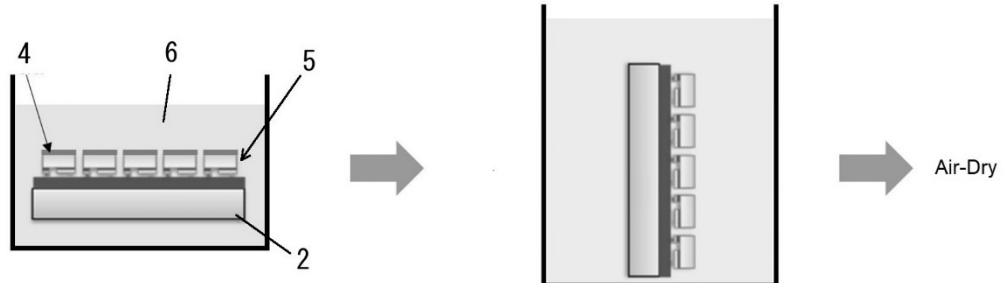


[FIG. 1]

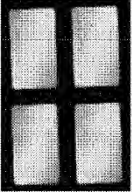
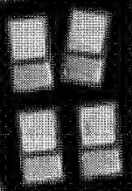
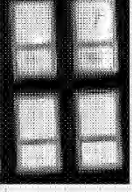
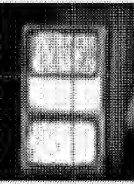
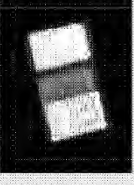
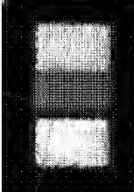
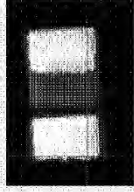
<Cleaning Conditions for Metal Ga>

Immersion in Cleaning Solution (Horizontally for 3 minutes)

Pure Water Rinsing (Repeated Twice)

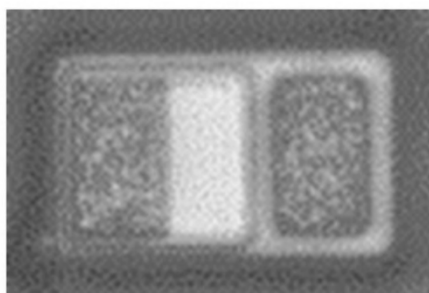


[FIG. 2]

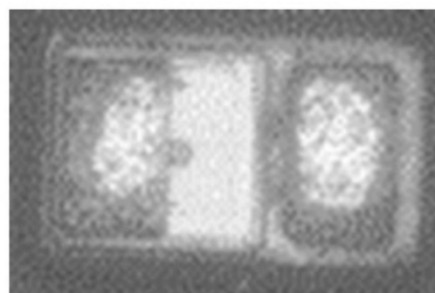
Photo before Cleaning		Example 1	Example 2	Example 3	Comparative Example 1	Comparative Example 2
Cleaning Solution		Alkaline Cleaning Solution	Alkaline Cleaning Solution	Alkaline Cleaning Solution	Acidic Cleaning Solution	Acidic Cleaning Solution
Name	Before Cleaning	5 wt% aqueous solution of KOH (potassium hydroxide)	2.34 wt% aqueous solution of TMAH (tetramethylammonium hydroxide)	10 wt% aqueous solution of Na ₂ CO ₃ (sodium carbonate)	12.3 wt% aqueous solution of HCl (hydrochloric acid)	6 wt% aqueous solution of H ₂ SO ₄ (sulfuric acid)
Immersion Time		3 minutes	3 minutes	3 minutes	3 minutes	3 minutes
Metal Ga		Dissolved 	Dissolved 	Dissolved 	Dissolved 	Dissolved 
In bump		Not Dissolved 	Not Dissolved 	Not Dissolved 	Dissolved (Some Pads are Partially Visible Through) 	Dissolved (Some Pads are Partially Visible Through) 
SAC bump		Not Dissolved 	Not Dissolved 	Not Dissolved 	Not Dissolved 	Not Dissolved 

[FIG. 3]

[Before Heating to 250°C]

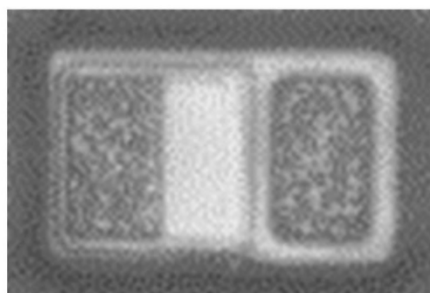


[After Heating to 250°C]

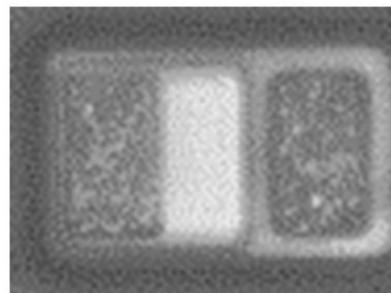


[FIG. 4]

[Before Heating to 250°C]



[After Heating to 250°C]



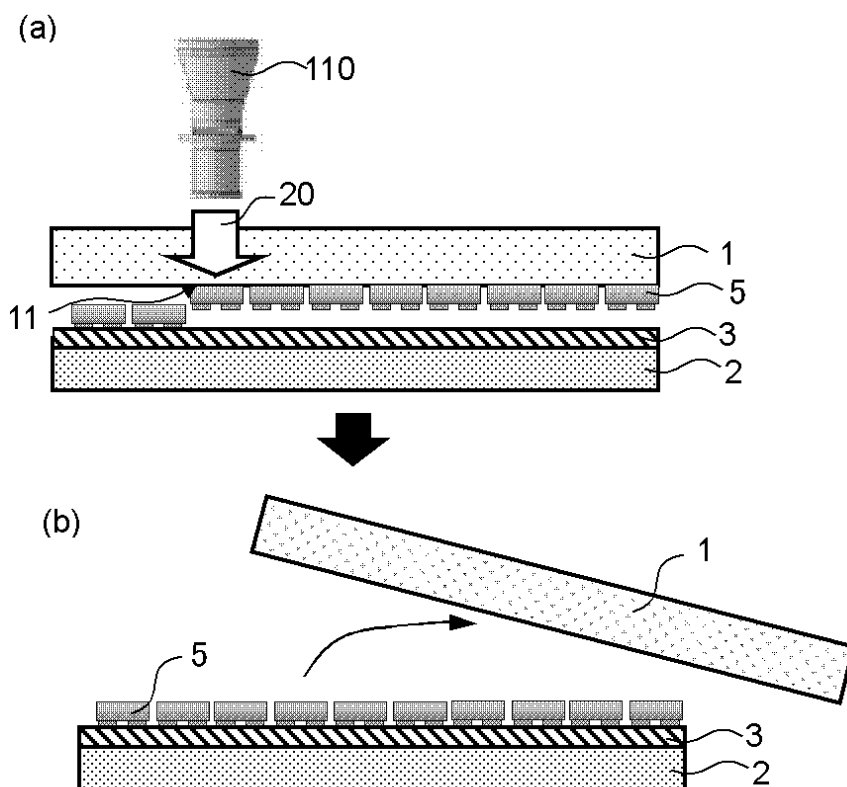
[FIG. 5]

Periodic Table

Elements to be Cleaned (removed)

Elements not to be Cleaned (Not Removed)

[FIG. 6]



[FIG. 7]

