

## TAIWAN SEMICONDUCTOR CO.,LTD. MATERIALS COMPOSITION DECLARATION

Item	Material Name	Tradedname	Substance Name	CAS No.	Raw Material Proportion	Proportion	ID	Exemption
1	Base Material	Ceramic Substrate	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	96.900%	72.110%	SB-01	
			SiO <sub>2</sub>	7631-86-9	1.860%			
			Fe <sub>2</sub> O <sub>3</sub>	1309-37-1	0.012%			
			CaO	1305-78-8	0.245%			
			MgO	1309-48-4	0.945%			
			TiO <sub>2</sub>	1317-80-2	0.005%			
			Na <sub>2</sub> O	12401-86-4	0.033%			
2	Paste	Silver paste	silver	7440-22-4	54%	3.020%	SP-10	
			Ethyl cellulose	9004-57-3	5%			
			Inorganic adhesive	~	6%			
			terpineol	10482-56-1	35%			
3	Paste	Conduct paste	Silver	7440-22-4	75%	5.250%	SP-11-1 SP-11-2	
			Resins	Trade secret	10%			
			Additives	Trade secret	5%			
			Diethylene glycol monobutyl ether	112-34-5	10%			
4	Dice	Switching dice	Si	7440-21-3	60%	0.300%	SD-04	
			Ag	7440-22-4	40%			
5	Liquid Encapsulant	Liquid Encapsulant	Silica	7631-86-9	70%	17.420%	SE-01	
			BIS-Phenol type liquid Epoxy	9003-36-5	15%			
			Others	-	15%			
6	Alloy Electrode	Alloy	Ni	07440-02-0	80%	0.040%	SP-12	
			Cr	07440-47-3	20%			
7	Plating Layer	Tin	Sn	7440-31-5	99.9%	1.860%	SP-02	
			Others	-	0.1%			