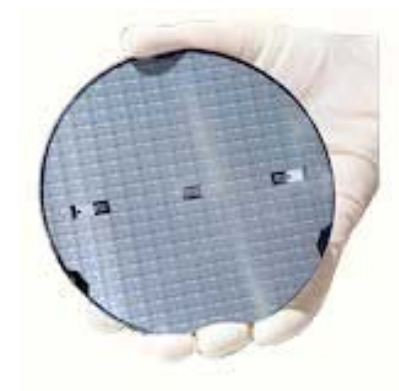


Sirectifier

Schottky Barrier Diode Presentation



www.sirectsemi.com

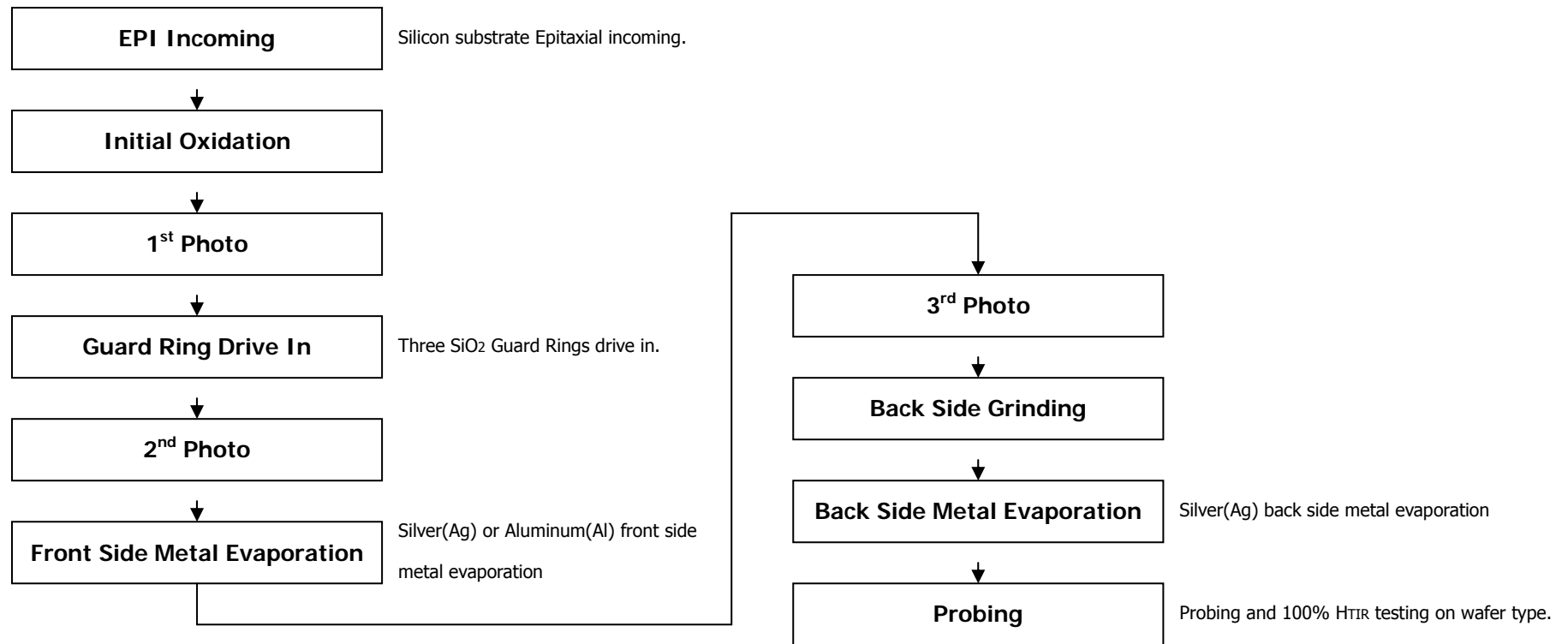
Schottky Family Briefly

No	Substrate	Chemical Formula	Barrier	Characteristics
1	Silicon	Si	Molybdenum	Standard Forward Voltage Drop(V_F) & Reverse Current Leakage(I_R)
			Platinum	Low Reverse Current Leakage(I_R) & High $T_{j(max)}$, Break-down Voltage(V_B) from 60V to 200V
			Chromium	Low Forward Voltage Drop(V_F) & low Break-down Voltage(V_B)
2	Gallium Arsenide	GaAs		High Break-down Voltage(V_B) up to 400V
3	Silicon Carbide	SiC		High Break-down Voltage(V_B) up to 600V

Silicon Schottky Family Briefly

No	Barrier	Electronic Characteristics				
		Peak Repetitive Reverse Voltage VRRM (V)	Forward Voltage Drop (VF) @25°C (mV)		Maximum Reverse Current(IR) @25°C	Tj(max) (°C)
			typ.	Max.		
1	Molybdenum	40 – 60	470-600	500-750	500µA-1mA	150
2	Platinum	40 - 200	620-820	650-900	10µA-200µA	150-175
3	Chromium	15	345	410	15mA	125

Schottky Wafer Process



Schottky Wafer Process/ 1 of 1

Applications

No	Barrier	Applications													
		Portable Application	LED Lighting	i-phone & i-pad	SMPS Adaptor	SMPS Desk-top	SMPS Charger	Inverter	Redundant	Server Power	PDP	LCD TV & Monitor	PV Junction Box	Telecom Power	E-Bike
1	Mo	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Pt		0		0	0	0	0	0	0	0	0		0	0
3	Cr								0	0				0	

Advantages and Weakness

NO	Barrier	Advantages	Weakness
1	Mo	<ol style="list-style-type: none"> 1. Suitable Forward Voltage Drop (V_F). 2. Strong Electrostatic Discharge (ESD) Protection Capability from 15 to 35kv (HBM). 3. Lowest Electromagnetic Interference (EMI) effect. 	<ol style="list-style-type: none"> 1. Lower Maximum Operating Temperature (T_j)_{max} @ 150°C 2. Higher Reverse Current Leakage (I_R) especially at higher temperature (HTIR).
2	Pt	<ol style="list-style-type: none"> 1. Extremely low Reverse Current Leakage (I_R). 2. Highest Maximum Operating Temperature (T_j max) up to 175°C. 3. Good Electrostatic Discharge (ESD) Protection Capability from 4 to 12kv (HBM). 4. Lower Electromagnetic Interference (EMI) effect. 5. Highest Breakdown Voltage (V_B) up to 200V. 	Highest Forward Voltage Drop (V_F) from 0.65-0.90V @ 25°C.
3	Cr	Extremely Low Forward Voltage Drop (V_F) less than 0.41V @ 25°C	<ol style="list-style-type: none"> 1. Lowest Maximum Operating Temperature (T_j max) @ 125°C 2. Highest Reverse Current Leakage (I_R) up to 15mA @25°C.