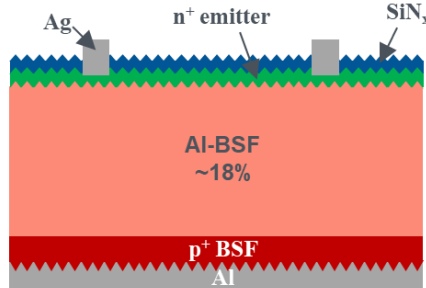


ASU Cell Technologies

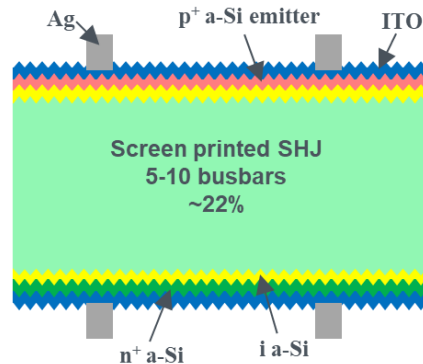
P-type Full Al-BSF Cell

- 1 Texturing/clean
- 2 Deposit SiO_x barrier
- 3 POCL Diffusion + PSG removal
- 4 Deposit SiN_x on front
- 5 Print and dry Ag/Al
- 6 Co-fire



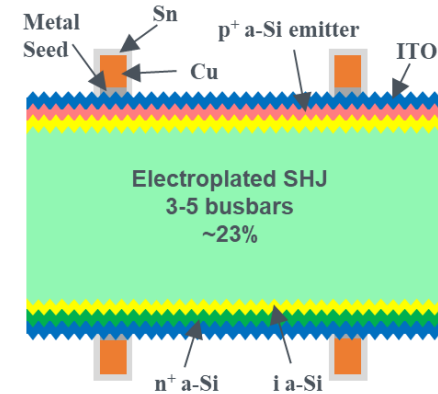
N-type Screen Printed SHJ Cell

- 1 Texturing/clean
- 2 Deposit (i)a-Si/(n+)a-Si on front
- 3 Deposit (i)a-Si/(p+)a-Si on rear
- 4 Deposit ITO on front and rear
- 5 Print and dry Ag on both sides
- 6 Cure



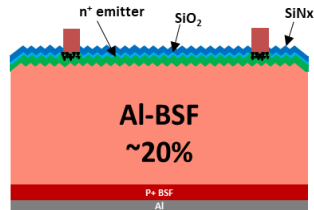
N-type Electroplated SHJ Cell

- 1 Texturing/clean
- 2 Deposit (i)a-Si/(n+)a-Si on front
- 3 Deposit (i)a-Si/(p+)a-Si on rear
- 4 Deposit ITO + seed on front and rear
- 5 Print and dry photoresist on both sides
- 6 UV expose photoresist
- 7 Develop photoresist
- 8 Plate Cu/Sn on both sides
- 9 Strip photoresist
- 10 Etch seed



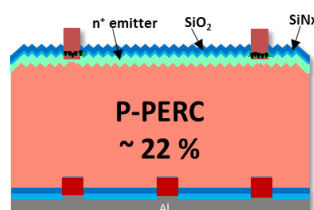
P-type Full Al-BSF Cell

- 1 Texturing/clean
- 2 POCl_3 Diffusion + PSG removal
- 3 Anneal and oxidation
- 4 Deposit SiN_x on front
- 5 Print and dry Ag/Al
- 6 Co-fire



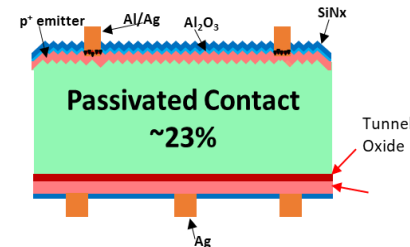
P-type PERC Cell

- 1 Texturing/clean
- 2 POCl_3 Diffusion + PSG removal
- 3 Front mask + Rear Planarization
- 4 Anneal and oxidation
- 5 Deposit SiN_x on front/rear
- 6 Local laser ablation
- 7 Print and dry Ag/Al
- 8 Co-fire



N-type TOPCon Cell

- 1 Texturing /Clean
- 2 Boron emitter & Anneal (APCVD)
- 3 HF & Front SiN mask
- 4 Rear Planarization
- 5 Nitric Acid Oxidation
- 6 LPCVD Poly-Si deposition
- 7 Rear SiN mask
- 8 Remove poly wrap around
- 9 Remove all SiN mask, poly anneal
- 10 Front & Rear passivation
- 11 Screen-Print Metal on both sides
- 12 Co-fire



These Technologies and Cell Structures Account for ~90% Solar Cells Produced in the World