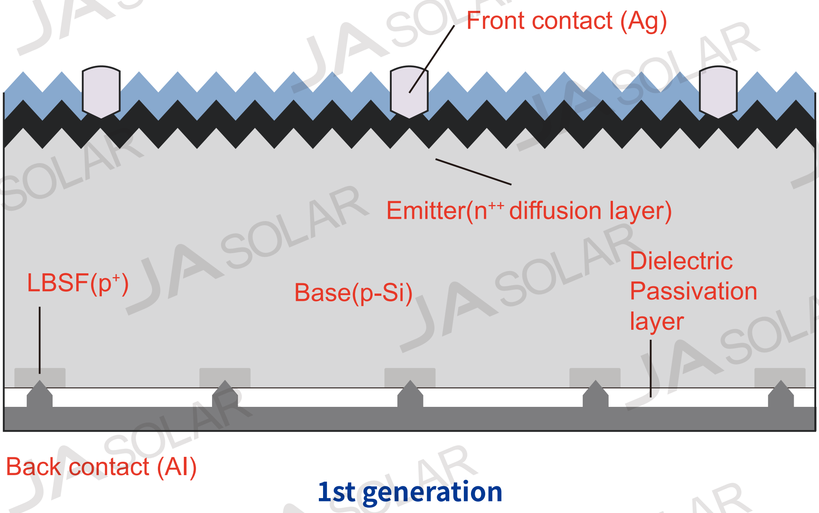
03 PART CORE TECHNOLOGIES

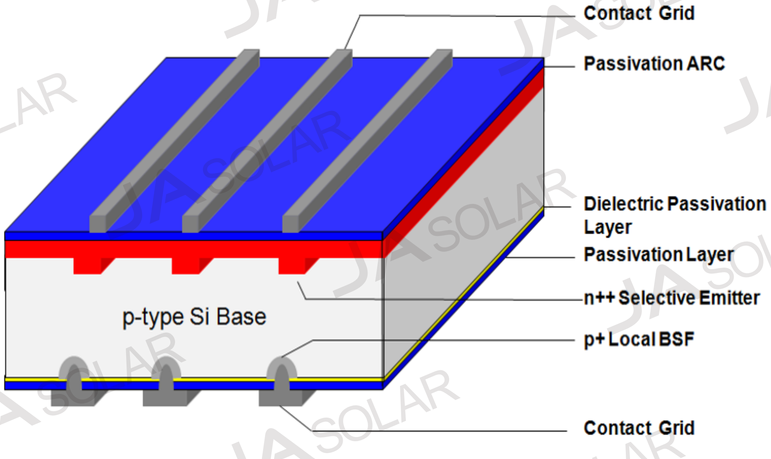
In order to effectively reduce LCOE, DeepBlue 3.0 products have adopted multiple core technologies for reducing cost and increasing efficiency, including new-generation PERCIUM+ cells, gallium-doped silicon wafers, and multi-busbar, half-cell, and advanced module technologies, etc.

3.1 PERCIUM+ cells

Applying the new-generation high-efficiency PERCIUM+ cells, DeepBlue 3.0 series modules achieve more than 23.1% of average mass-produced cell efficiency by improving the passivation process on the front and back, superior low-irradiance power generation performance, and outstanding high-temperature power generation performance. The three-year outdoor testing data from 2017 to 2020 shows that the new-generation PERCIUM+ cells can generate power 2-3% more than those using the 1st generation technology.

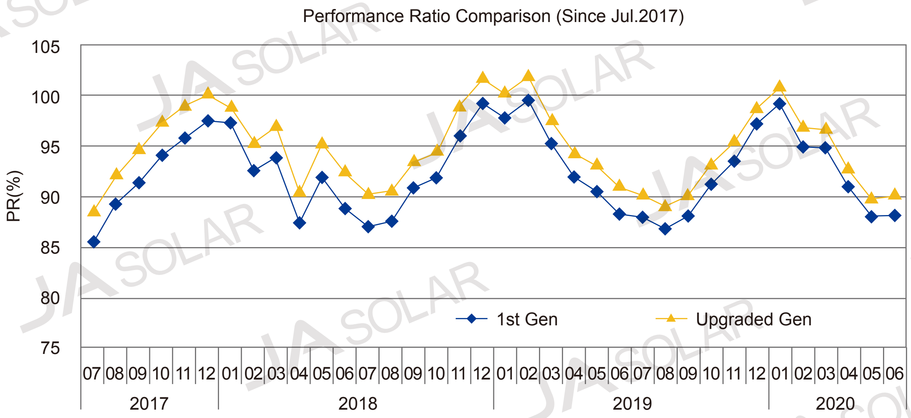


1st generation



New-generation PERCIUM+

Structure diagram of two generations of PERCIUM cells



Comparison of outdoor tested power generation between two generations of PERCIUM cells

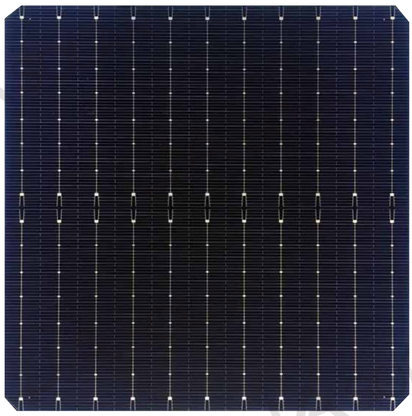
3.2 Gallium-doped technology

All high-efficiency mono-crystalline cells are made of gallium-doped silicon wafers, which have better anti-degradation performance and ensure durable and stable high-efficiency power generation. The first year degradation is within 2%.

2%
The first year degradation

3.3 Multi-busbar cell technology

With MBB cell technology, DeepBlue 3.0 series modules identify 11 busbar as the best solution by taking comprehensive account of cell efficiency, production yield and cost, which have shortened the current transmission distance and reduced resistance loss, thus increasing the conversion efficiency of cells, and reducing the impact of broken grids and micro-cracks on module performance.



Cell with multi-busbar cell technology