

BP Solar – reliability that is redefining performance

Performance by design

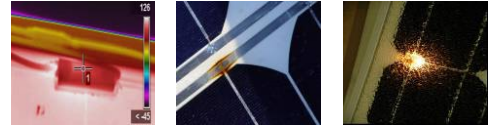
Diodes

By-pass diodes protect the module from overheating when the module is shaded – a condition hard to avoid in many installations. Axial diodes potted in the junction box are prone to failure because they can not dissipate heat. BP Solar modules are designed with a SMT diode mounted on the Integra-bus which operates about 50% cooler, dramatically increasing reliability



Interconnect solder failures

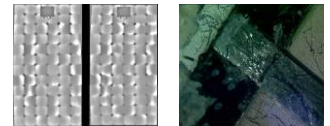
Interconnection of cells and external wiring is the backbone to a solar PV module. Improperly formulated interconnect material, poorly controlled soldering processes and materials and design errors can contribute to premature failure, and overheating of the modules.



With over more than 30 years of field experience BP Solar uses time-tested interconnection materials, processes and designs that dramatically improve interconnection reliability.

Interconnect failures

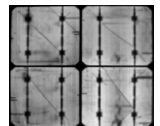
Interconnect systems are subjected to thermal conditions in the field which result in daily expansion and contraction as well as significant mechanical stresses. Improperly designed interconnects and poorly specified materials and processes lead to interconnect cracking and failure.



Thermal images of competitor modules reveal significant hot and cold parts of modules after thermal cycling, indicating interconnect failures. This will lead to significant loss of power, and potentially module failure, often early in the life of the module. BP Solar uses the highest quality materials incorporated into carefully designed interconnection systems that minimise the impact of thermal stress, assuring amazing long term performance.

Cell cracks

Modules in the field often see significant upward and downward forces as a result of wind. These pressures over time will inevitably cause cells to crack. Cell interconnect systems that do not use front to back leads are subject to complete or partial failure when cells crack. BP has led the industry in the use of redundant multiple discrete connection point interconnects. This virtually eliminates the impact of cracked cells and ensures continuous power generation year after year.



Corrosion

Solar PV modules are subject to harsh environments including moisture and heat. When materials are not properly specified and tested, or ineffective encapsulation schemes are used, significant corrosion and loss of module power can be expected. BP Solar has pioneered advanced reliability testing to ensure that our modules will perform year after year with virtually no degradation – producing the lowest cost energy over the life of the system

