

Q.PEAK DUO-G9 SERIES

POWERED BY



THE **ZENITH** OF QUALITY WITH
ZERO-GAP TECHNOLOGY



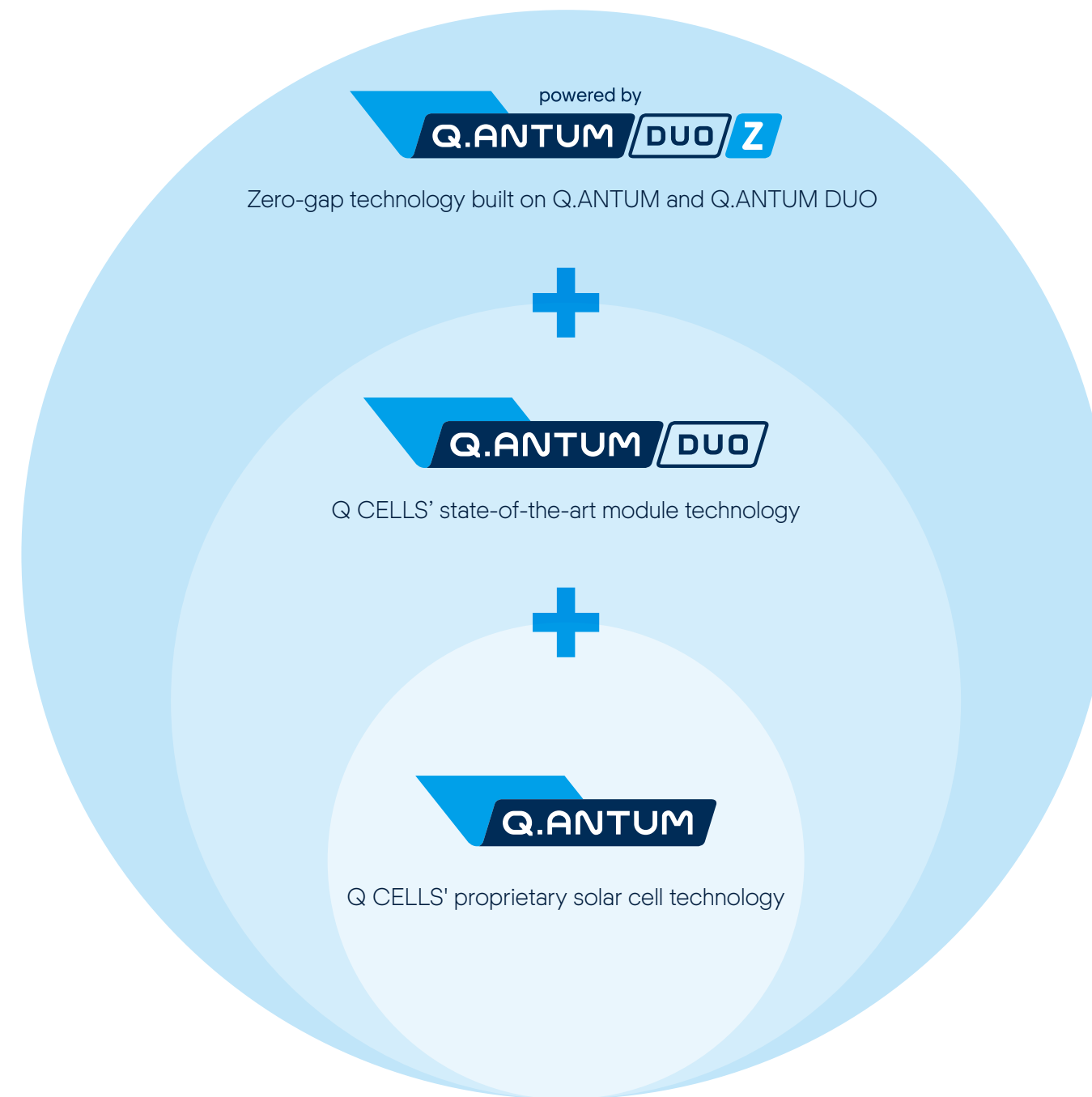
THE EVOLUTION OF Q.ANTUM TECHNOLOGY NEVER STOPS

As a pioneer in the solar industry, Q CELLS has experts in every field of solar engineering and manufacturing.

Q CELLS' proprietary Q.ANTUM Technology has been a game-changer in terms of raising standards in module performance and efficiency throughout the solar industry.

Q.ANTUM is the most mature PERC (Passivated Emitter and Rear Cell) technology, and Q CELLS was the first solar company to commercialize the technology. With the birth of Q.ANTUM, PERC technology could finally be rolled out into mainstream use across fields and rooftops globally.

Q.ANTUM has been constantly evolving and providing our customers with world-leading quality. Now, we are proudly introducing 'Q.ANTUM DUO Z', which features 'Zero-Gap' Technology.



Q.ANTUM DUO Z:
INNOVATION BUILT ON PROVEN TECHNOLOGY

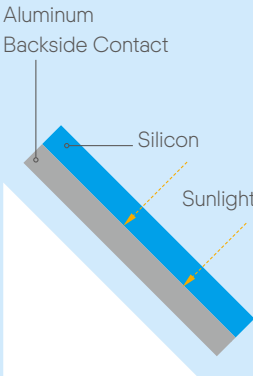


+ 7%
Power Output

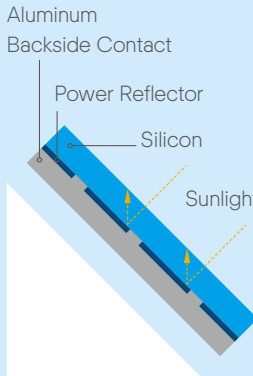
Solar Cells

- 12+ years of R&D
- Commercialized 7+ years ago
- Over 4 billion Q.ANTUM cells produced
- More than 23 GW of Q.ANTUM solar modules produced

Conventional Cells



Q.ANTUM Solar Cells

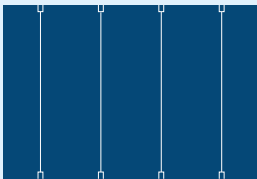


+ 7.5%
Power Output

Module Technology

- 7 years of R&D
- Won Intersolar PV Award 2018
- More than 7 GW of Q.ANTUM DUO modules produced
- PVEL Top Performer 2019/2020

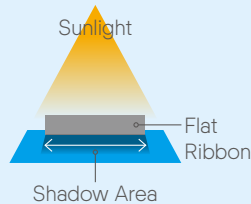
4 Busbars



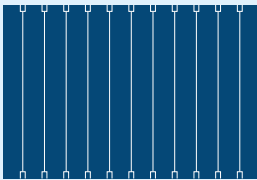
Full Cell



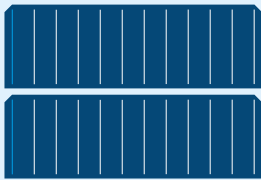
Flat Ribbon



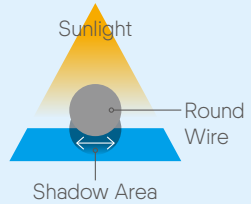
12 Busbars



Half-Cell



Round Wire



Shorter distance reduces effect of resistance on electrons

+2%

+3%

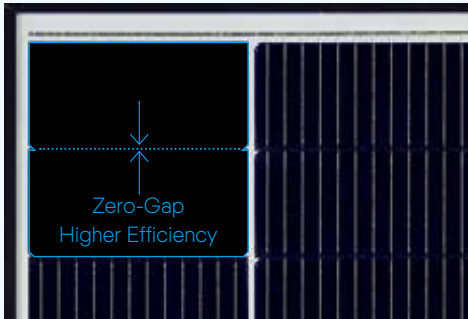
+2.5%



+ 10%*
Power Output
*120 half-cell BLK-G8 vs 132 half-cell BLK-G9

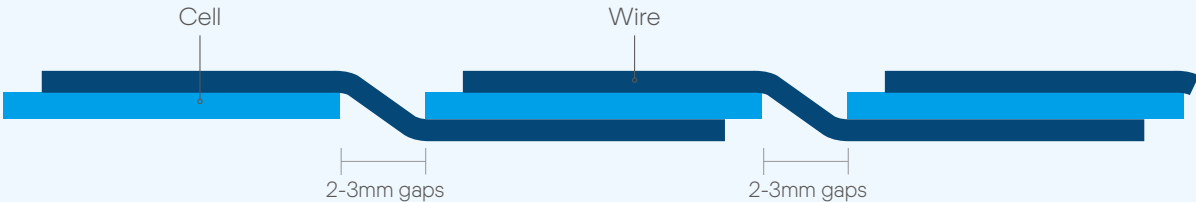
Zero-Gap Technology

Gaps between the cells are closed to ensure a more effective use of the module area. By reducing the space between the cells, module efficiency is increased in relative terms by 4%, delivering an overall efficiency of 21.1%. The number of cells contained within the module is also increased, from 120 half-cells in previous iterations, to 132 half-cells, and from 144 half-cells to 156 half-cells, thus delivering a maximum power of up to 465 Wp.



Current Industry Standard

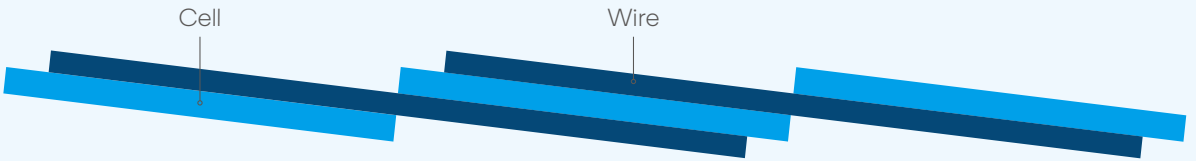
Gaps of 2-3mm between cells result in lower density of cells; wire bends to electrically connect front side of one cell to rear side of next cell



- Cell 1
- Cell 2
- Cell 3
- Cell 4

Zero-Gap Technology

Converged cells for higher density; straight wire, cells marginally tilted (up to 0.3 degrees)



- Cell 1
- Cell 2
- Cell 3
- Cell 4
- + Cell 5

THE Q.PEAK DUO-G9 SERIES

SUPERIOR **PERFORMANCE** AND **AESTHETICS**
BOOSTED WITH HIGHER **DENSITY**

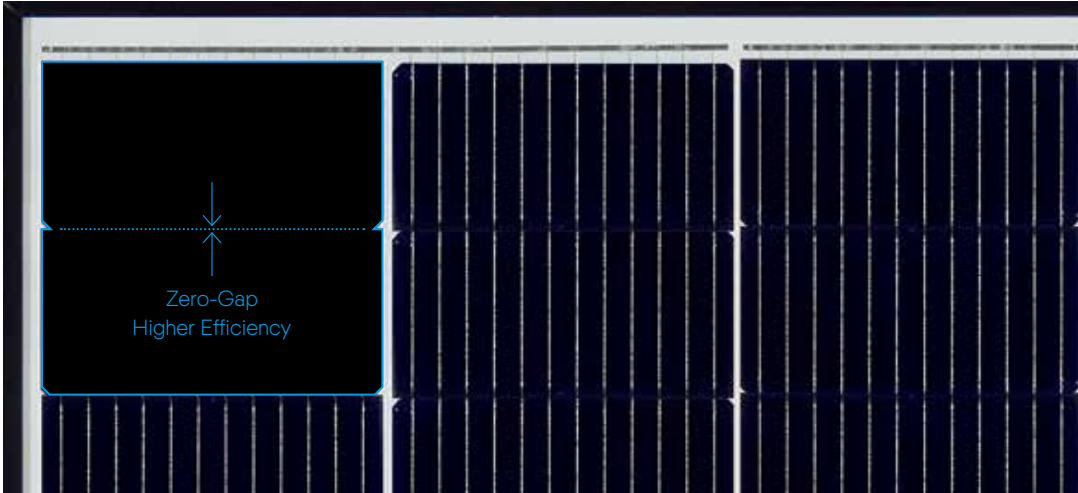


EXTREME DENSITY, BREAKING THE 20% EFFICIENCY BARRIER

Why does the efficiency of solar modules matter? It is all about converting more sunlight into usable electricity. Thus, maximizing energy use and bill savings is heavily reliant on your solar module’s efficiency, and high-density modules boost the efficiency by ensuring a more effective use of the limited area.

Converged Cells, Elevating Efficiency up to 21.1%

The Q.PEAK DUO-G9 Series use Q.ANTUM DUO Z Technology, where gaps between the cells are closed to ensure a more effective use of the module area. By reducing the space between the cells, module efficiency is increased in relative terms by 4%, delivering an overall module efficiency of up to 21.1%.



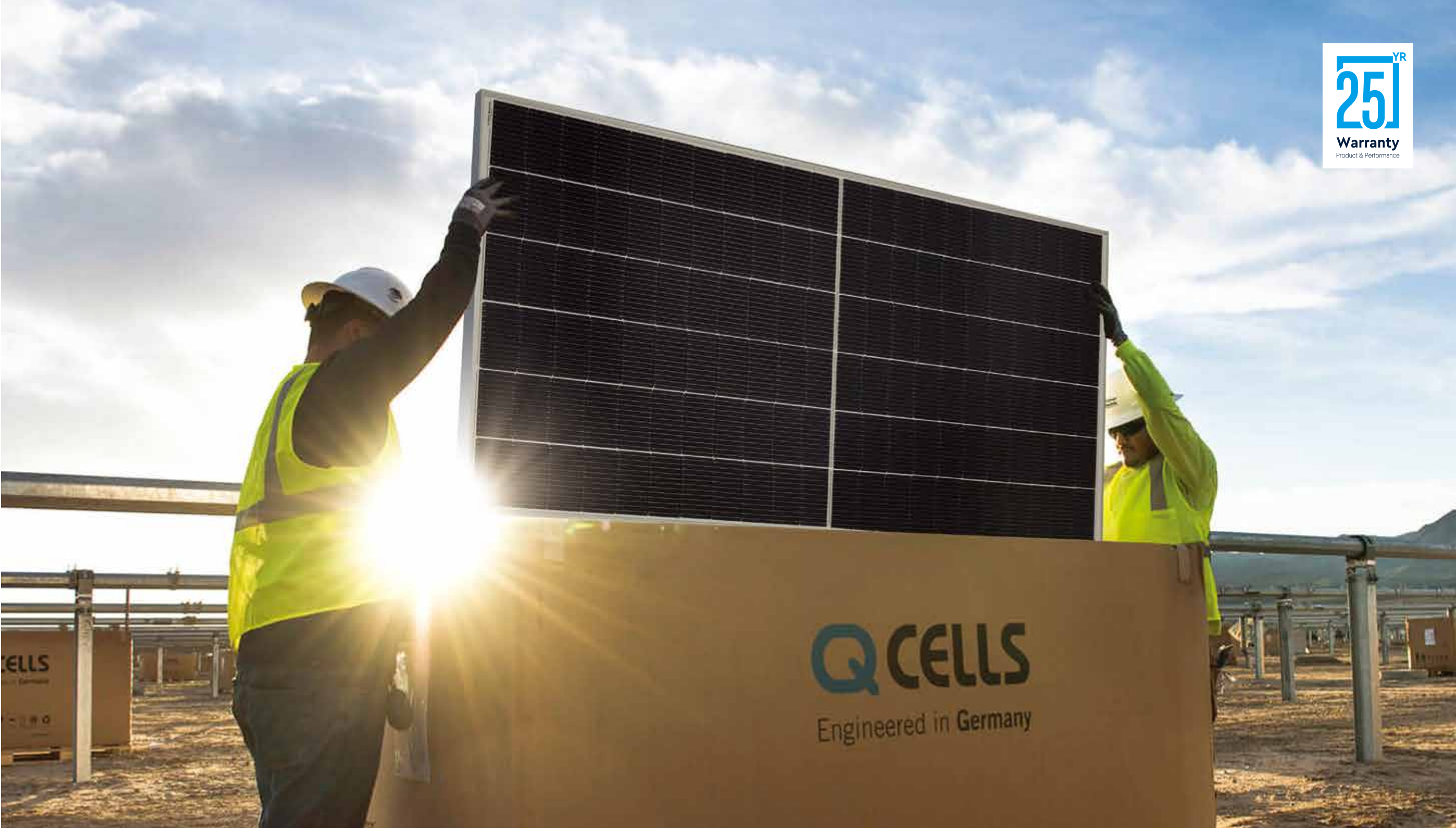
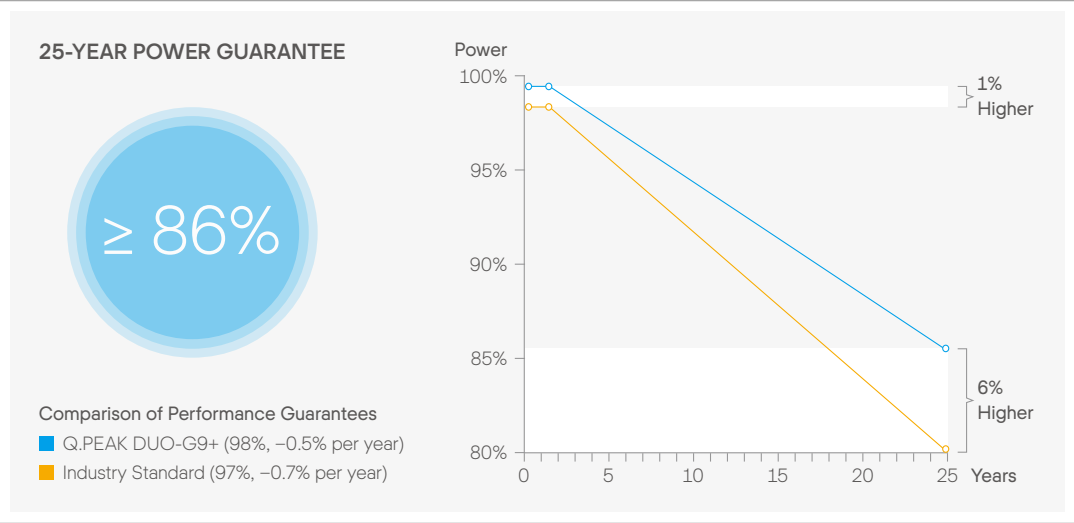
BEST-IN-CLASS PERFORMANCE WARRANTY GUARANTEED 86% POWER AFTER 25 YEARS

When seeking a long-term solar investment, you should focus on the amount of electricity your solar system generates year-after-year, and also consider how slowly or quickly your solar modules degrade over time.

Industry-Leading Performance Warranty

Q.PEAK DUO ML-G9+ and Q.PEAK DUO BLK ML-G9+ are backed by a 25-year product and performance warranty that guarantees at least 86% of the initial power after 25 years. Q CELLS' yield security program minimizes the degradation process.

- 2% First year maximum degradation allowance
- 0.5% Annual maximum degradation allowance



SOPHISTICATED APPEARANCE FROM ALL ANGLES

Elevate your roof with powerful yet aesthetic solar modules.
Boost curb appeal with a sleek Q CELLS solar system.

Outstanding Appearance with Zero-Gap between Cells

The Q.PEAK DUO-G9 Series provide a better look for your roof. Zero-gap between cells improve the overall module appearance, striking a compelling balance between high power, high efficiency and better aesthetics.

Among the line-up of products, the Q.PEAK DUO BLK ML-G9+ boasts an all-black design including a black frame and a black backsheet, which achieves an overall look of sophistication.



MORE WITH LESS: GAIN MORE ENERGY WITH LESS SPACE AND LESS WEIGHT

Solar modules come in a range of sizes and weights. Smaller modules are better especially for maximizing space use on residential rooftops, and weight is what matters most when determining whether a rooftop can support a full installation. The Q.PEAK DUO BLK ML-G9+ can save your rooftop space and ease the installation with lightweight modules.

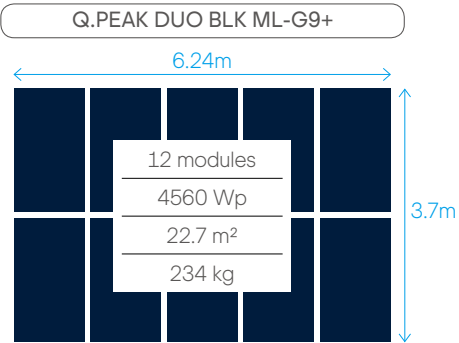
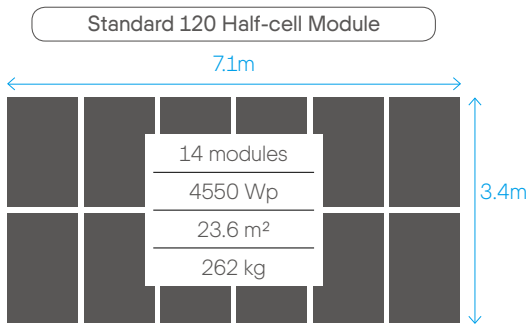
Competitor Comparison

Q.PEAK DUO BLK ML-G9+ (all-black module) vs. a Competitor's standard 120 half-cell module

Module	Standard 120 Half-cell Module	Q.PEAK DUO BLK ML-G9+
Power (Wp)	325	380
Efficiency	19.25%	20.05%
Length (mm)	1685	1840
Width (mm)	1002	1030
Weight (kg)	18.7	19.5

Use Case of Q.PEAK DUO BLK ML-G9+

Compared to a competitor's standard 120 half-cell module, the Q.PEAK DUO BLK ML-G9+ is space-efficient and absolutely powerful.



FAR BEYOND THE STANDARD: RIGOROUS TESTS ENSURING A SUPERIOR LEVEL OF QUALITY

Q CELLS goes far beyond the requirements of global certification tests, and this is what differentiates Q CELLS from other manufacturers.

Q CELLS modules are only deemed market-ready once they have passed all severe test conditions so that they can stand strong and reliable throughout their product lives.

Highly Accelerated Life Testing

Damp Heat (DH) Test
This is an accelerated environmental ageing test. Modules are exposed to extremely hot and humid air (85°C, 85% rel. humidity) for up to 3000 hours or 125 days – 3 times the duration required by the IEC standard.

Damp Heat (DH) Test **3,000** hours

IEC standard requires
1,000 hours

Temperature Cycle (TC) Test
Modules are exposed to extreme temperature cycles from minus 40°C to plus 85°C up to 600 times. The IEC standard only requires 200 cycles. The reliability of the soldering joints is the main focus of this test.

Temperature Cycle (TC) Test **600** times

IEC standard requires
200 times

Humidity Freeze (HF) Test
This test combines the conditions of DH and TC tests. This test is exceptionally demanding and very helpful to identify any potential risk of delamination as well as fatigue of soldering joints. Q CELLS subjects its modules to these extreme temperature and humidity cycles up to 30 times while IEC standards only require 10 cycles.

Humidity Freeze (HF) Test **30** cycles

IEC standard requires
10 cycles



Q.PEAK DUO-G9 SERIES PRODUCT LINE-UP

The Q.PEAK DUO-G9 Series feature a suite of exciting innovations to deliver a compelling combination of high power, high efficiency and superior aesthetics. It is the first series of modules to use Q.ANTUM DUO Z Technology.



Q.PEAK DUO-G9 Series Mechanical Specifications

Q.PEAK DUO BLK ML-G9+

Power Class	365-385 Wp
Efficiency	Up to 20.6%
Format (including frame)	72.4 in × 40.6 in × 1.26 in
Weight	43.0 lbs
Maximum System Voltage	1000V
Warranty	25-year product and performance warranty

The ideal solution for:

- Rooftop arrays on residential buildings
- Rooftop arrays on commercial/industrial buildings

Q.PEAK DUO ML-G9+

Power Class	375-395 Wp
Efficiency	Up to 21.1%
Format (including frame)	72.4 in × 40.6 in × 1.26 in
Weight	43.0 lbs
Maximum System Voltage	1000V
Warranty	25-year product and performance warranty

The ideal solution for:

- Rooftop arrays on residential buildings
- Rooftop arrays on commercial/industrial buildings

Q.PEAK DUO XL-G9.2

Power Class	445-465 Wp
Efficiency	Up to 21.1%
Format (including frame)	85.2 in × 40.6 in × 1.38 in
Weight	57.3 lbs
Maximum System Voltage	1500V
Warranty	12-year product and 25-year performance warranty

The ideal solution for:

- Rooftop arrays on commercial/industrial buildings
- Ground-mounted solar power plants


TOP, NO.1, BEST – THE WORDS THAT DEFINE Q CELLS



Proven long-term reliability, uncompromising quality standards, strong financial bankability, and global market recognition in every PV segment are some important deciding factors to consider when selecting the right brand for your solar needs. Though there are many options in the market today, why not place your trust in the market leader?


TOP
BRAND PV

Robust 20+year history of award-winning innovations and rated as a top module brand for 7 consecutive years in Europe and for 5 consecutive years in Australia.



BEST
QUALITY MANAGEMENT

Outstanding quality management through our own quality assurance program, implementing 3 times stricter testing standards than industry standards.



BEST
IN-CLASS WARRANTY

Extended 25-year product and performance warranties* that reflect our commitment to quality products built to last.

*Applicable to select products



NO.1
MARKET SHARE


Top market share in both the U.S. residential and commercial segments.

*Wood Mackenzie PV Leaderboard Q1 2020



TIER 1
BANKABILITY

Tier 1 solar manufacturer since 2012 as recognized by Bloomberg New Energy Finance and a bankable partner backed by a Fortune Global 500 parent company.



TOP
PERFORMER

Top Performer for 5 consecutive years as recognized by PV Evolution Labs (PVEL) in partnership with DNV GL.



TOTAL ENERGY SOLUTIONS PROVIDER



Q CELLS' solar DNA has evolved into providing total energy solutions.
For your home or business, Q CELLS provides affordable and smart energy solutions
through technology and innovation to create a sustainable future for the planet.



PV MODULES

QUALITY SOLAR
CELLS AND MODULES



ESS SOLUTIONS

SCALABLE ENERGY STORAGE SOLUTIONS
FOR OPTIMIZED ENERGY CONSUMPTION



DOWNSTREAM BUSINESS

BRING PV PROJECTS TO LIFE WITH TECHNOLOGY,
SUPERIOR ENGINEERING AND TOP TIER BANKABILITY



DISTRIBUTED ENERGY SOLUTIONS

CLEAN AND AFFORDABLE ENERGY
WITH LESS DEPENDENCE ON THE GRID



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