



320W PERC Module

JAM60S01 300-320/PR Series

Introduction

Powered by high-efficiency PERCIUM cells, this series of high-performance modules provides the most cost-effective solution for lowering the LCOE of any PV systems large or small.



5 busbar solar cell design



Higher output power



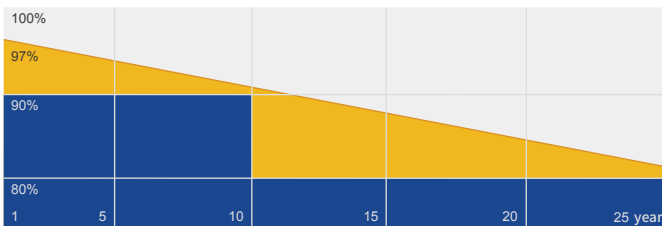
Excellent low-light performance



Lower temperature coefficient

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty



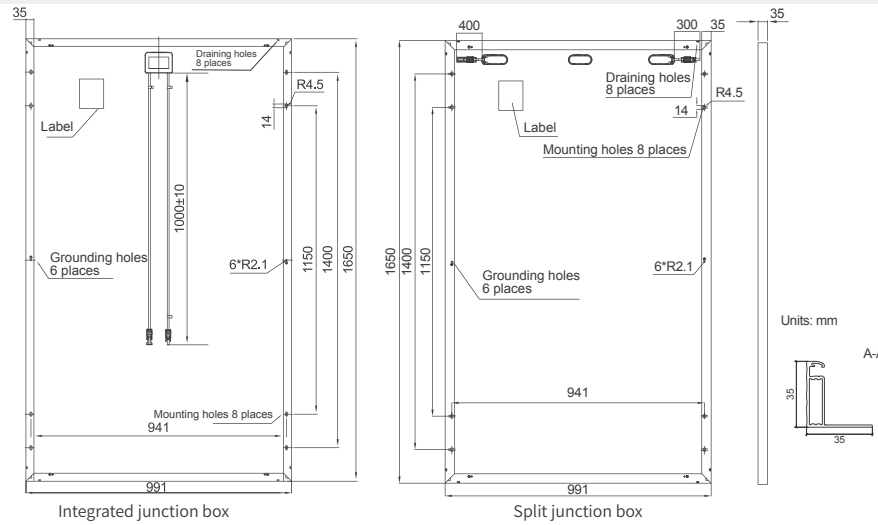
■ JA Linear Power Warranty ■ Industry Warranty

Comprehensive Certificates

- IEC 61215, IEC 61730, UL 1703, IEC TS 62804, IEC 61701, IEC 62716, IEC 60068-2-68
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- OHSAS 18001: 2007 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



MECHANICAL DIAGRAMS



SPECIFICATIONS

Cell	Mono
Weight	18.2kg±3%
Dimensions	1650mm×991mm×35mm
Cable Cross Section Size	4mm ²
No. of cells	60(6x10)
Junction Box	IP67, 3 diodes
Connector	MC4 Compatible(1000V) QC 4.10-35(1500V)
Packaging Configuration	30 Per Pallet

Remark: customized frame color and cable length available upon request

ELECTRICAL PARAMETERS AT STC

TYPE	JAM60S01 -300/PR	JAM60S01 -305/PR	JAM60S01 -310/PR	JAM60S01 -315/PR	JAM60S01 -320/PR
Rated Maximum Power(Pmax) [W]	300	305	310	315	320
Open Circuit Voltage(Voc) [V]	39.85	40.05	40.30	40.53	40.80
Maximum Power Voltage(Vmp) [V]	32.26	32.57	32.84	33.16	33.48
Short Circuit Current(Isc) [A]	9.75	9.85	9.91	9.98	10.05
Maximum Power Current(Imp) [A]	9.30	9.37	9.44	9.50	9.56
Module Efficiency [%]	18.3	18.7	19.0	19.3	19.6
Power Tolerance	0~+5W				
Temperature Coefficient of Isc(α _{Isc})	+0.060%/°C				
Temperature Coefficient of Voc(β _{Voc})	-0.300%/°C				
Temperature Coefficient of Pmax(γ _{Pmp})	-0.380%/°C				
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G				

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

ELECTRICAL PARAMETERS AT NOCT

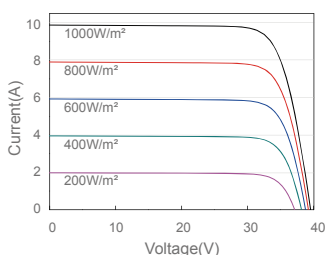
TYPE	JAM60S01 -300/PR	JAM60S01 -305/PR	JAM60S01 -310/PR	JAM60S01 -315/PR	JAM60S01 -320/PR
Rated Max Power(Pmax) [W]	221	224	228	232	235
Open Circuit Voltage(Voc) [V]	36.75	36.95	37.15	37.36	37.61
Max Power Voltage(Vmp) [V]	29.69	29.90	30.18	30.42	30.70
Short Circuit Current(Isc) [A]	7.78	7.86	7.93	7.99	8.05
Max Power Current(Imp) [A]	7.43	7.50	7.55	7.61	7.66
NOCT	Irradiance 800W/m ² , ambient temperature 20°C, wind speed 1m/s, AM1.5G				

OPERATING CONDITIONS

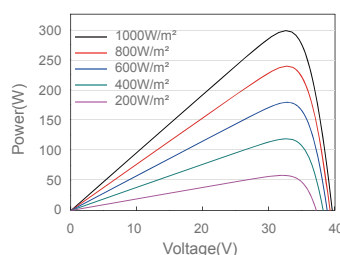
Maximum System Voltage	1000V/1500V DC(IEC)
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	20A
Maximum Static Load,Front	5400Pa
Maximum Static Load,Back	2400Pa
NOCT	45±2°C
Application Class	Class A

CHARACTERISTICS

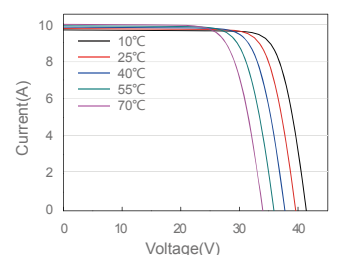
Current-Voltage Curve JAM60S01-300/PR



Power-Voltage Curve JAM60S01-300/PR



Current-Voltage Curve JAM60S01-300/PR



Limited Warranty

for PV Modules

JA SOLAR

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JA Solar 08.2016

JA SOLAR

JA Solar Holdings Co., Ltd., and on behalf of ALL its DIRECTLY AND INDIRECTLY owned and controlled subsidiary, INCLUDING BUT NOT LIMITED TO Shanghai JA Solar Technology Co., Ltd.-(hereinafter jointly referred to as "JA Solar") warrants its Photovoltaic Solar modules' (MODULES) performance starting from the date of sale to the first customer installing (for their own use) the modules ("Customer") or starting at the latest 6 months after modules dispatch from the JA Solar factory, whichever occurs earlier (the "Warranty Commencement Date").

1. Limited Product Warranty – Twelve Year Repair or Replacement
JA Solar warrants that the MODULES together with the factory-assembled DC connectors and cables are free from any defects in materials and workmanship under normal application, usage, installation and service conditions for a period of one hundred and forty-four (144) months from the Warranty Commencement Date. If MODULES become malfunctioning or non-operative due to defects in material or workmanship during the one hundred and forty-four (144)-month period from the Warranty Commencement Date, as verified by an independent testing agency that will be selected and confirmed mutually by JA Solar and Customer in advance, JA Solar will, at its sole option, either repair or replace the malfunctioning or inoperative MODULES, MODULES' repair or replacement remedy shall be the sole and exclusive remedy provided under this Limited Product Warranty and shall not extend beyond the period set forth herein. This Limited Product Warranty does not warranty a specific power output at or during any time frame, which shall be exclusively covered under Section 2 of this Warranty hereinafter ("Limited Peak Power Warranty")

2. Limited Peak Power Warranty– Limited Remedy

JA Solar warrants that for a period of twenty-five years starting from the Warranty Commencement Date, loss of power output against the minimum "Peak Power at STC" as specified on the label of the modules (hereinafter "Nominal Power") when measured at Standard Test Conditions (STC) for the Product(s) shall not exceed:

- (1) For Mono Products: 3 % for the first year from the Warranty Commencement Date, and 0.65% per year thereafter from the 2nd to the 25th year of the warranty period; with a power output standing at 81.4% of the Nominal Power at the end of the 25-year warranty period;
- (2) For Poly Products: 2.5 % for the first year from the Warranty Commencement Date, and, 0.7% per year thereafter from the 2nd to the 25th year of the warranty period; with a power output standing at 80.7% of the Nominal Power at the end of the 25-year warranty period.

Within the period of twenty-five (25)-year warranty period from the Warranty Commencement Date, should any qualified Module sold by JA Solar exhibit a loss of power output exceed the aforementioned warranted values, provided that any such declared loss in power has been verified by JA Solar, at its sole discretion is due to MODULES' defects in materials or workmanship attributable to JA Solar's own causes and further confirmed by an independent testing agency (if so requested by a customer) (which is to be selected and confirmed mutually by JA Solar and Customer in advance), JA Solar will, at its sole option and discretion, either (1) make up such loss in power by providing to customer(s) additional MODULES; or (2) repair or replace the defective MODULES including free shipping to the location as set out in the original sales contract entered between JA Solar and the customer.

The remedies set forth herein are the sole and exclusive remedies JA Solar is bound to provide under the Limited Peak Power Warranty.

CAVEAT:

The shipping charges for any allegedly defected MODULES shall be borne by the customers making such claims in advance. Should the independent testing agency confirm that such defected are to be covered under this Warranty by JA Solar, the shipping charges advanced by the customers may be reimbursed by JA Solar against the original proof of expenditure.

3. Exclusions and Limitations

(a) Warranty claims from any customers, in any event, shall be filed in writing to JA Solar or its authorized distributors within the applicable warranty period and not beyond the last day of the applicable period of time as stated above.

(b) The Limited Product Warranty and Limited Peak Power Warranty shall not apply to MODULES which have been subject to:

- Misuse, abuse, neglect, vandalism or accident;
 - Repair or modifications that do not strictly follow the manufacturer's instructions; Non-observance of JA Solar's maintenance instructions;
 - Power failure, electrical spikes or surges, lightning, flood, fire, accidental breakage or other events outside JA Solar's control.
 - Alteration, improper installation or application which is not compliant with JA Solar standard installation manual.
- (c) The Limited Product Warranty and Limited Peak Power Warranty do not cover any costs associated with installation, removal or re-installation of the MODULES and (except as explicitly set forth in the last paragraph of the Section 5) customs clearance or any other costs for return of the MODULES.
- (d) Warranty claims will not be honored if the type or serial number of JA Solar MODULES have been altered, removed or made illegible without written authorization from JA Solar.

4. Limitation of Warranty Scope

This Warranty as set forth herein is expressly in lieu of and excludes all other express or implied warranties, including but not limited to warranties of merchantability and of fitness for particular purpose, use, or application, and all other obligations or liabilities on the part of JA Solar, unless such other obligations or liabilities are expressly agreed to in writing signed and approved by JA Solar. JA Solar shall have no responsibility or liability whatsoever for damage or injury to persons or property, or for other loss or injury resulting from any cause whatsoever arising out of or related to the MODULES, including, without limitation, any defects in the MODULES or from use or installation.

Under no circumstances shall JA Solar be liable for incidental, consequential or special damages, however caused. Loss of use, loss of profits, loss of production, and loss of revenues. The aforementioned alleged losses by customers are specifically and without limitation excluded from responsibilities of JA Solar. JA Solar's aggregate liability, if any, in damages or otherwise, shall not exceed the invoice value as paid by the Customer, for the single unit of MODULES.

5. Obtaining Warranty Performance

If the Customer has a justified claim covered by this Warranty, an immediate written notification shall be directly made to JA Solar by means of registered letter to the address of JA Solar listed hereunder, or, sending a notification via e-mail to the e-mail account of JA Solar listed hereunder. Together with the notification, the Customer should enclose the evidence of the claim with the corresponding serial number of the MODULES and the date on which the MODULES have been purchased. An invoice with clear indication of the purchase date, purchase price, module type, stamp or signature of JA Solar or its distributors should also be submitted as part of the preliminary evidence.

If the MODULES will be returned to JA Solar for inspection, repair or replacement by JA Solar, JA Solar shall provide the Customer with a Return Merchandise Authorization (RMA). However, JA Solar will not accept a return of any MODULES without such RMA. In connection with both the Limited Product Warranty and Limited Peak Power Warranty, JA Solar may reimburse customer for reasonable, customary and documented transportation charges by sea freight for both the return of the MODULES and reshipment of any repair or replacement MODULES, only if such cost reimbursement is authorized by JA Solar's Customer Service Department in advance.

6. Transferability

This warranty is extended to the original end-user purchaser, and is also transferable to any subsequent owner of the location or holder of the product when MODULES remain at their original installed location upon satisfactory proof of succession or assignment.

7. Severability

If a section, provision or clause of this Warranty, or the application thereof to any person or circumstance, is held invalid, void or unenforceable, such shall not affect and thus shall leave all other sections, provisions, clauses or applications under this Warranty severable, and therefore validly binding.

8. Dispute Resolution

In case of any dispute in terms of warranty-claims, a first-class international testing institute, such as PI Berlin, TÜV SUD or Intertek, UL, shall be entrusted by both parties upon mutual consents in order to demand third party verification and comments. All fees and expenses shall be borne by the party that requested such verification procedure, unless otherwise agreed.

Further dispute over the claim shall be submitted to dispute resolution as stipulated in the main sales contract to which this Warranty is a part of and subject to the applicable jurisdiction agreed by the parties in the sales contract.

9. Various

The repair or replacement of the MODULES or the supply of additional MODULES does not lead to a new commencement of warranty terms, nor shall the original terms of this Warranty be extended. Any replaced MODULES shall become the property of JA Solar.

JA Solar shall at its own options to deliver another type of MODULES (different in size, color, shape, or power), either a new brand or the original one, in case that JA Solar has discontinued producing the module in question at the time of the claim.

10. Force Majeure

JA Solar shall not be responsible or liable to the Customer whatsoever or any third-party arising out of any non-performance or delay in performance of any terms and conditions of the sales, including this Warranty, due to causes of natural disasters such as fire, flood, blizzard, hurricane, thunder, acts of God, changes of public policies, terrorism, war, riots, strikes, unavailability of suitable and sufficient labor or materials and other events which are out of control of JA Solar.

REMARK:

"Peak Power" is the power in watt peak that MODULES generates in its maximum power point under STC condition. STC are as follows:

- (a) Light spectrum of AM 1.5
 - (b) Irradiance at 1,000W/m²
 - (c) Cell temperature of 25 degree Centigrade at right angle irradiation
- The measurements are carried out in accordance with IEC61215 as tested at the junction box terminals per the calibration and testing standards of JA Solar valid at the date of manufacture of the MODULES. JA Solar's calibration standards shall be in compliance with the standards applied by international institutions accredited for this purpose.