

Prepared by: Sureserve**For:** 2 De Quincey Road, London, N17
7DL**Quote #:**
Valid until:

Solar Energy System Proposal

Thank you for the opportunity to present your Solar Energy System Proposal.

Best Regards,

Luis Martinez Casteleiro

Sureserve Energy Services UK Limited

This proposal is no longer valid, please contact Luis Martinez Casteleiro (LuisMartinez.Casteleiro@sureserve.co.uk) to get an updated proposal.

Recommended System Option

1.82 kW

System Size

£270

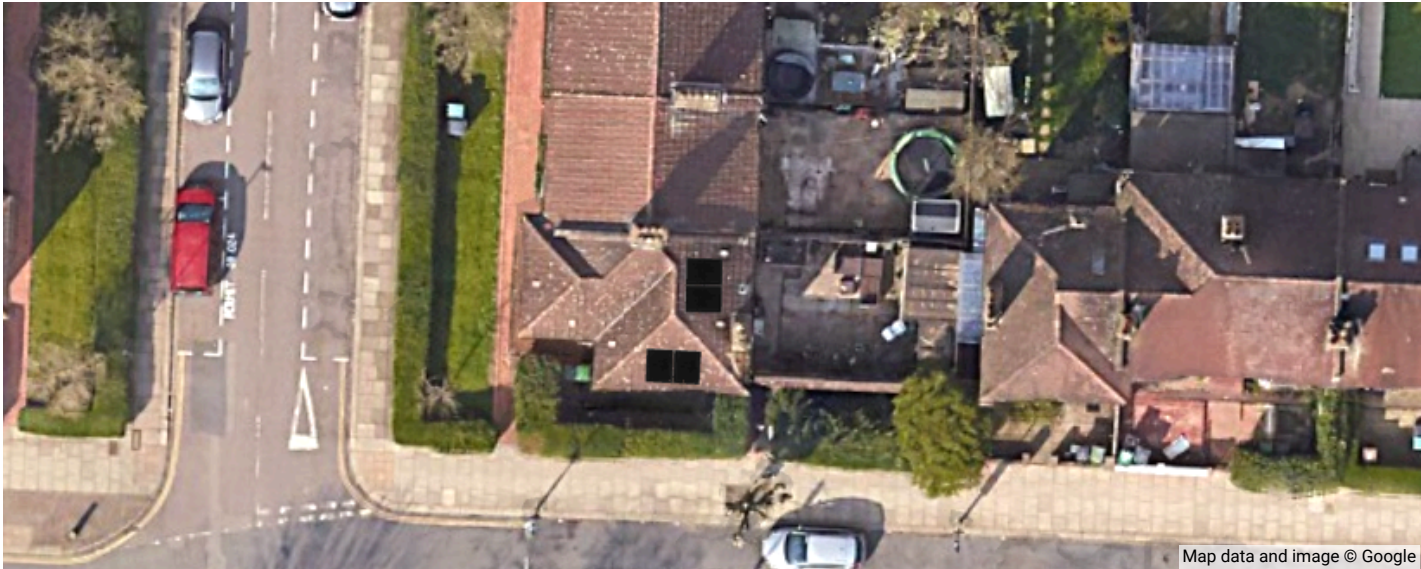
Estimated Annual
Electricity Bill Savings

£0

Total System Price

£0

Net System Price



Your Solution

JAM54D41 LB

1.820kW of Solar Power

4 x JAM54D41-455/LB

455 Watt panels

25 Year Product Warranty & **30 Year** Linear Performance Warranty

1,522kWh per year



JA SOLAR

Inverter

SOLIS

3.0 kW Total Inverter Rating

2 x S6-GR1P1.5K-M-DC

Solar Roof Pro Rail 3500mm

Solar Roof Pro Rail 3500mm

4 x ER-R-PRO3500

Universal Clamp 30-46mm with Grounding Black Anodised

Universal Clamp 30-46mm with Grounding Black Anodised

12 x CLMC-U/30/46-G/BA

Clenergy Self-drilling Universal Wood Screw 14-11 x 70 Hex Head

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32 x ER-US-6.3-70-BW-BX

Module-level PV Optimizer

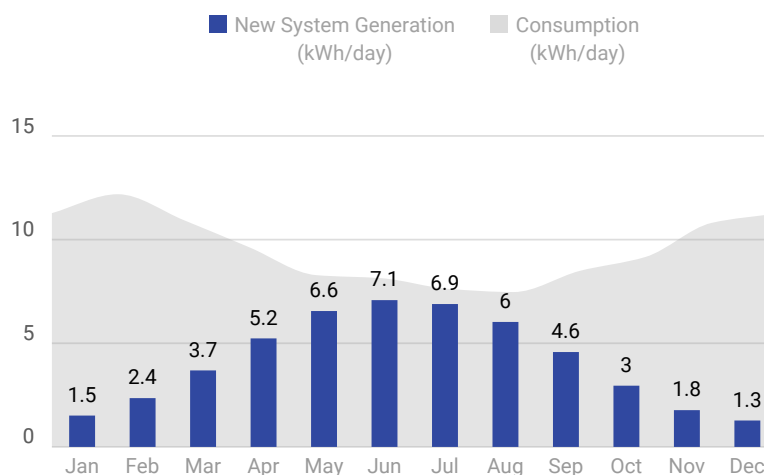
Module-level PV Optimizer

4 x TS4-A-O

Warranties: 25 Year Panel Product Warranty, 30 Year Panel Performance Warranty, 5 Year Inverter Product Warranty

System Performance

43%
Energy From Solar



System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 5.4%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 2 panels with Azimuth 183 and Slope 38, 2 panels with Azimuth 91 and Slope 31.

The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. This estimate is based upon the standard MCS procedure is given as guidance only. It should not be considered as a guarantee of performance. The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

This system performance calculation has been undertaken using estimated values for array orientation, inclination, or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

A. Installation data

Installed capacity of PV system - kWp (stc)	1.820	kWp
Orientation of the PV system - degrees from South	Group 1: 2 panels with Orientation: 5 ° Group 2: 2 panels with Orientation: 90 °	°
Inclination of system - degrees from horizontal	Group 1: 2 panels with Tilt: 38° Group 2: 2 panels with Tilt: 31°	°
Postcode region	1	

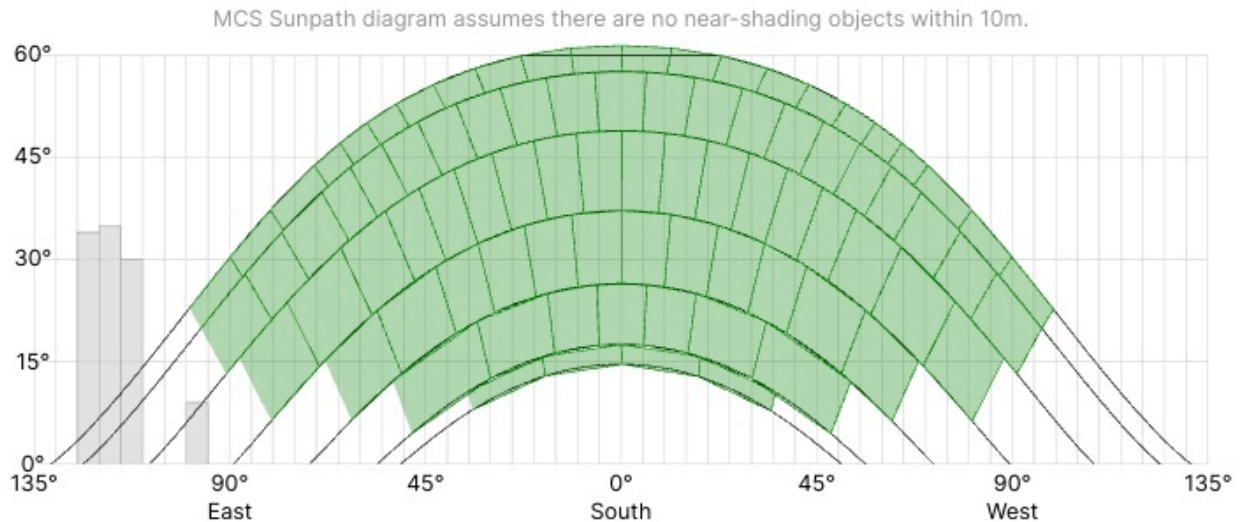
B. Performance calculations

kWh/kWp (Kk) from table	Group 1: 984 Group 2: 792	kWh/kWp
Shade Factor (SF)	0.946	

Estimated annual output (kWp x Kk x SF)	1,522	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	3,500.00	kWh
Assumed annual electricity generation from solar PV system, kWh	1,522	kWh
Expected solar PV self-consumption (PV Only)	593.58	kWh
Grid electricity independence / Self-sufficiency (PV Only)	16.96	%

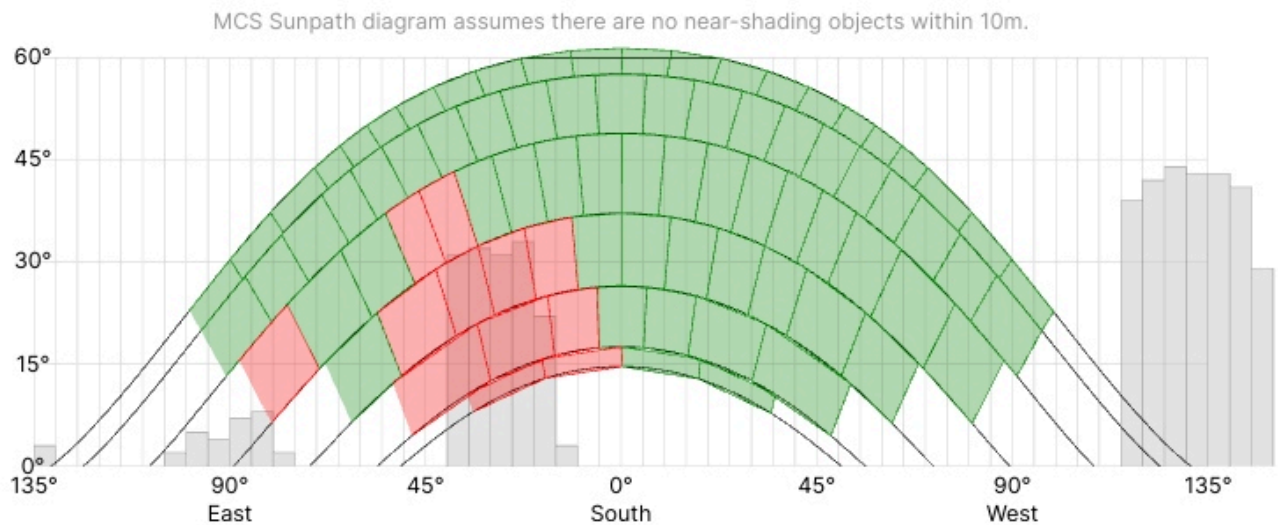
Sunpath Diagram

Disclaimer: The shade mask mapped onto the sunpath diagram is based off the field of view from a point in the center of the array. This means that the shade mask shown will only capture the shading experienced at the array center point, and will not reflect the shading casted onto other locations on the array.



Sunpath Diagram

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Environmental Benefits

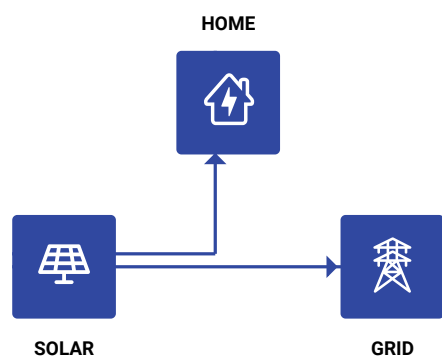
Solar has no emissions. It just silently generates pure, clean energy.



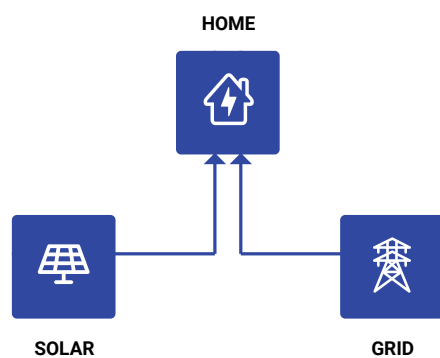
Each Year		Over System Lifetime		
43%	0.4 ^{tons}	11,521 ^{km}	74	8
Consumption Offset	of CO ₂ reduced per year	Car distance avoided (lifetime)	Trees planted	Long haul flights avoided

How your system works

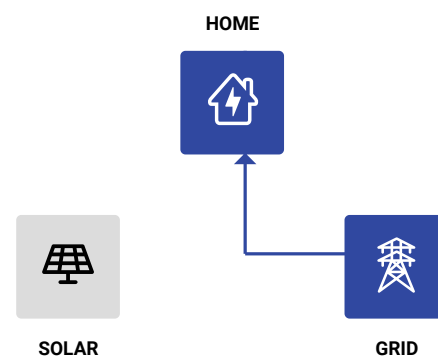
Generating Excess Solar



Partially Offset Usage

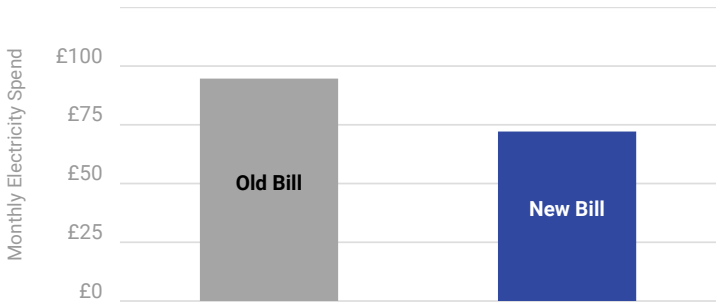


Night

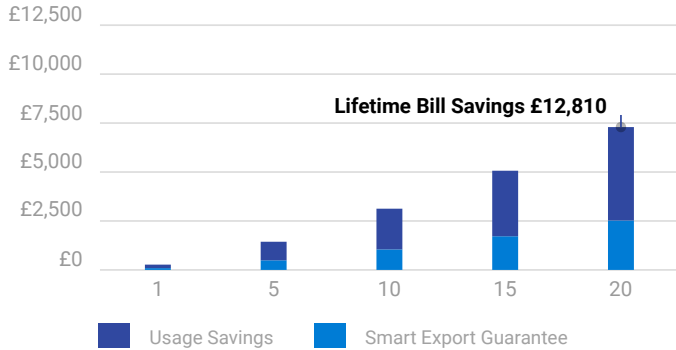


Electricity Bill Savings

First Year Monthly Bill Savings



Cumulative Bill Savings



Month	Solar Generation (kWh)	Net Grid Consumption before new system (kWh)	Electricity Imported after new system (kWh)	Electricity Exported after new system (kWh)	Export Credit (£)	Utility Bill before new system (£)	Utility Bill after new system (£)	Estimated Savings (£)
Jan	47	350	310	7	1	110	100	11
Feb	66	341	292	16	2	107	92	15
Mar	114	339	280	55	5	108	85	23
Apr	157	289	232	101	10	94	66	28
May	203	257	199	145	15	86	52	34
Jun	212	244	187	155	16	82	47	35
Jul	214	236	181	158	16	80	45	35
Aug	187	232	182	137	14	79	48	30
Sep	137	255	207	90	9	85	61	23
Oct	92	284	239	47	4	93	77	16
Nov	53	324	284	13	1	103	92	11
Dec	40	349	313	3	0	110	101	9

Rate not specified specified, using Octopus Flux S Scotland - Jul 25 based on location.

Your projected energy cost is calculated by considering a 2.7% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 3500 kWh per year, assuming Octopus Flux S Scotland - Jul 25 Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

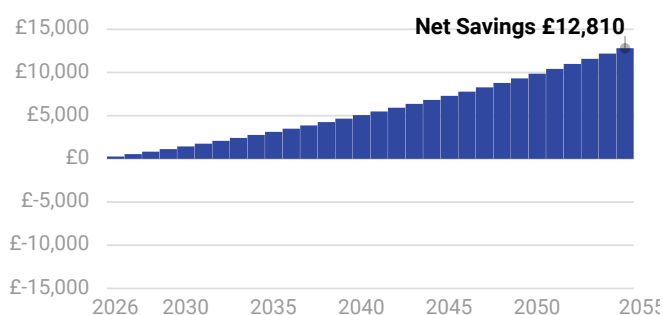
Proposed Tariff Details - Octopus Energy Octopus Flux S Scotland - Jul 25	
Energy Charges	
Peak Import 4pm-7pm\Mon-Sun	£0.36 / kWh
Standard Import 5am-4pm\s&\s7pm-2am\Mon-Sun	£0.26 / kWh

Flux Import <i>2am-5am\Mon-Sun</i>	£0.15 / kWh
Smart Export Guarantee	
Peak Export <i>4pm-7pm\Mon-Sun</i>	£0.27 / kWh
Standard Export <i>5am-4pm\Mon-Sun & 7pm-2am\Mon-Sun</i>	£0.10 / kWh
Flux Export <i>2am-5am\Mon-Sun</i>	£0.04 / kWh
Fixed Charges	
Standing Charge	£0.54 / day

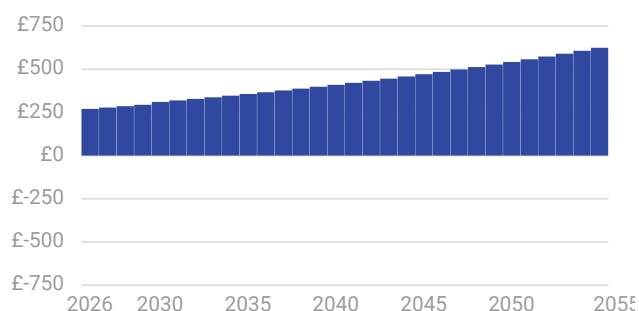
Net Financial Impact Cash

$$\begin{array}{rcl}
 \text{£12,810} & - & \text{£0} \\
 \text{Utility Bill Savings} & & \text{Net System Cost} \\
 & = & \text{£12,810} \\
 & & \text{Estimated Net Savings}
 \end{array}$$

Cumulative Savings From Going Solar



Annual Savings From Going Solar



Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

Quotation

Payment Option: Cash

4 x JA Solar 455 Watt Panels (JAM54D41-455/LB) 2 x S6-GR1P1.5K-M-DC (SOLIS) 4 x ER-R-PRO3500, 32 x ER-US-6.3-70-BW-BX, 12 x CLMC-U/30/46-G/BA, 4 x TS4-A-O	
Total System Price	£0.00 Excluding £0.00 VAT
Purchase Price	£0.00 Including £0.00 VAT

Price excludes Retailer Smart Meter should you want us to install your Smart Meter it will be an additional cost.
This proposal is valid until 8th January 2026.



This proposal has been prepared by Sureserve Energy Services UK Limited using tools from OpenSolar. Please visit www.opensolar.com/proposal-disclaimer for additional disclosures from OpenSolar.

455W **LB**
Series Higher power generation better LCOE n-type with very Lower LID Better Temperature Coefficient Better low irradiance response 25-year product warranty 30-year linear power output warranty

n-type Bifacial Double Glass High Efficiency Mono Module JAM54D41 LB

430-455

Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing

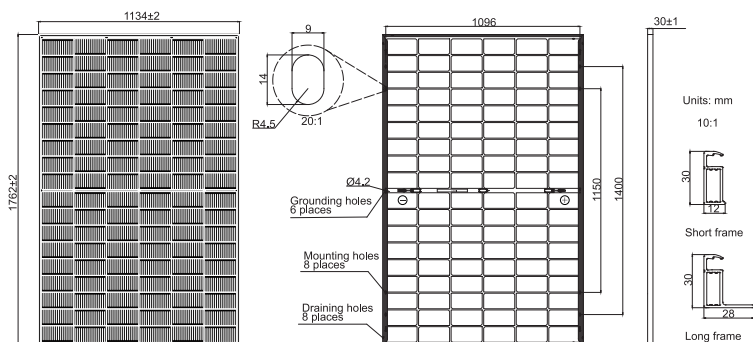




455W

430-455

JAM54D41

LB
Series

Remark: customized frame color and cable length available upon request

Cell	Mono-16BB
Weight	22kg
Dimensions	1762±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm ² (IEC), 12 AWG (UL)
No. of cells	108(6×18)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-351/ MC4-EVO2A
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1200mm(+)/1200mm(-)
Front Glass/Back Glass	1.6mm/1.6mm
Packaging Configuration	36pcs/Pallet, 936pcs/40HQ Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54D41 -430/LB	JAM54D41 -435/LB	JAM54D41 -440/LB	JAM54D41 -445/LB	JAM54D41 -450/LB	JAM54D41 -455/LB
Rated Maximum Power(P _{max}) [W]	430	435	440	445	450	455
Open Circuit Voltage(V _{oc}) [V]	38.50	38.70	38.90	39.10	39.30	39.50
Maximum Power Voltage(V _{mp}) [V]	32.12	32.29	32.47	32.65	32.82	33.00
Short Circuit Current(I _{sc}) [A]	14.14	14.23	14.31	14.40	14.48	14.56
Maximum Power Current(I _{mp}) [A]	13.39	13.47	13.55	13.63	13.71	13.79
Module Efficiency [%]	21.5	21.8	22.0	22.3	22.5	22.8
Power Tolerance	0~+5W					
Temperature Coefficient of I _{sc} (α _{Isc})	+0.046%/ °C					
Temperature Coefficient of V _{oc} (β _{Voc})	-0.260%/ °C					
Temperature Coefficient of P _{max} (γ _{Pmp})	-0.300%/ °C					
STC	Irradiance 1000W/m ² , cell temperature 25 °C, AM1.5G					

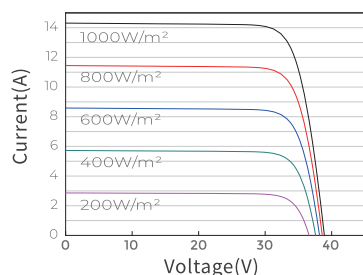
ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO

TYPE	JAM54D41 -430/LB	JAM54D41 -435/LB	JAM54D41 -440/LB	JAM54D41 -445/LB	JAM54D41 -450/LB	JAM54D41 -455/LB
Rated Max Power(P _{max}) [W]	464	470	475	481	486	491
Open Circuit Voltage(V _{oc}) [V]	38.50	38.70	38.90	39.10	39.30	39.50
Max Power Voltage(V _{mp}) [V]	32.11	32.29	32.47	32.65	32.82	32.99
Short Circuit Current(I _{sc}) [A]	15.27	15.36	15.46	15.55	15.64	15.73
Max Power Current(I _{mp}) [A]	14.46	14.55	14.63	14.72	14.81	14.89
Irradiation Ratio (rear/front)	10%					

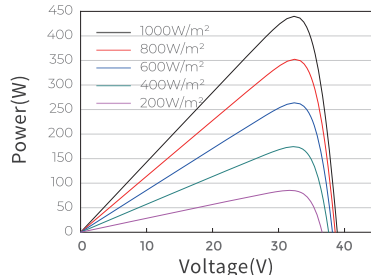
*Bifaciality=P_{max, rear}/Rated P_{max, front}

CHARACTERISTICS

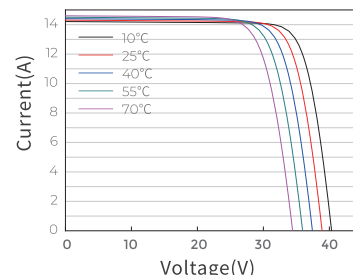
Current-Voltage Curve JAM54D41-440/LB



Power-Voltage Curve JAM54D41-440/LB

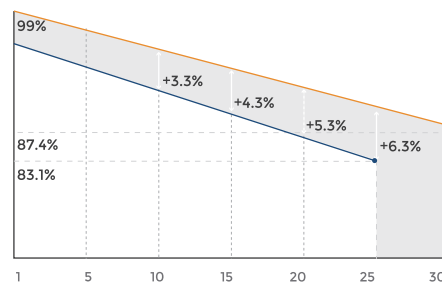


Current-Voltage Curve JAM54D41-440/LB



Superior Warranty

1% 1st-year Degradation
0.4% Annual Degradation Over 30 years



- n-type Bifacial Double Glass Module Linear Performance Warranty
- Standard Module Linear Performance Warranty

*Subject to the terms and conditions contained in the Limited Warranty Statement.
Also this 25-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC
Operating Temperature	-40 °C ~+85 °C
Maximum Series Fuse Rating	30A
Maximum Static Load, Front	5400Pa (112 lb/ft ²)
Maximum Static Load, Back	2400Pa (50 lb/ft ²)
NOCT	45±2 °C
Bifaciality*	80%±10%
Fire Performance	UL Type 38