BIFACIAL MONO CRYSTALLINE DOUBLE GLASS MODULE - SHINGLED CELL TECHNOLOGY

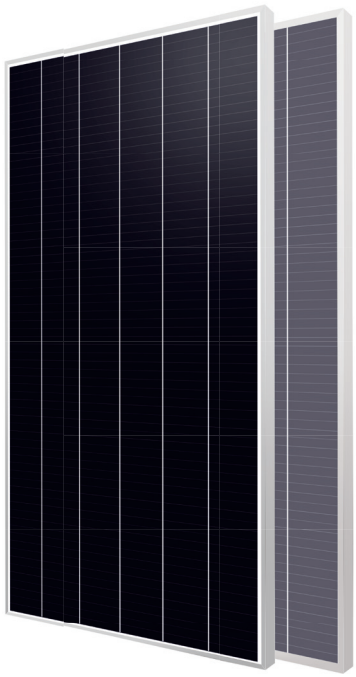
645 / 650 / 655 / 660 / 665 / 670 / 675 Watts

Puma Series

EUROPEAN MANUFACTURER

Superior Performance and Reliability

Shingled technology eliminates traditional ribbon connection with shingles connected in series.
By removing the soldered ribbons, the active area of the module is improved and thermal stresses are reduced - resulting in exceptional efficiency and reliability over standard interconnections.



CSI UNI9177 - Safety Fire Class 1

Outstanding performance under extreme heat as well as low intensity solar radiation

Pmax

Significantly low Pmax thermal coefficient

Wp

Positive Tolerance

EL

100 % electro-luminescence tested

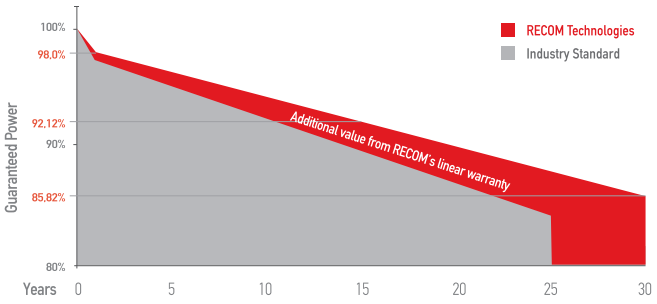
Key Benefits

- Higher yield per surface area
- Low Pmax Temperature Coefficient
- Higher yield in hot climate
- 25 Years Limited Product Warranty
- Low LCOE
- Low Resistive Losses

Tests, Certifications and Warranties

Standard Tests	IEC 61215, IEC 61730
Factory Quality Tests	ISO 9001: 2015, ISO 14001: 2015
Certifications	Conformity to CE, PV CYCLE Fire Safety Class 1 according to UNI9177
Wind and Snow Loads Testing	Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal)
Withstanding Hail	Maximum Diameter of 25 mm with impact speed of 23 m/s
Power Tolerance	Guaranteed +0/+5W (STC condition)
Warranties	• 25-year limited product warranty • 15-year manufacturer warranty on 92.12% of the nominal performance • 30-year transferable linear power output warranty

Linear Performance Warranty



First Year Output	≥ 98.0%	2-30 Year Decline	≤ 0.42%	30 Year Output	≥ 85.82%

Puma

BIFACIAL MONO CRYSTALLINE DOUBLE GLASS MODULE - SHINGLED CELL TECHNOLOGY

RCM-xxx-SDMT2 (xxx=645-675)

Electrical Characteristics

POWER CLASS (1)			645		650		655		660		665		670		675	
Testing Condition			STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*	STC	*NMOT*
Maximum Power	Pmax	[Wp]	645	*486*	650	*489*	655	*493*	660	*497*	665	*501*	670	*504*	675	*508*
Maximum Power Voltage	Vmp	[V]	38,7	*36,9*	38,8	*37,0*	38,8	*37,0*	38,9	*37,1*	39,0	*37,2*	39,1	*37,3*	39,2	*37,3*
Maximum Power Current	Imp	[A]	16,68	*13,17*	16,77	*13,25*	16,89	*13,32*	16,98	*13,39*	17,07	*13,46*	17,16	*13,54*	17,26	*13,61*
Open Circuit Voltage	Voc	[V]	46,6	*44,3*	46,7	*44,4*	46,8	*44,5*	46,9	*44,7*	47,0	*44,8*	47,1	*44,9*	47,2	*45,0*
Short Circuit Current	Isc	[A]	17,74	*14,29*	17,84	*14,37*	17,97	*14,47*	18,06	*14,55*	18,16	*14,63*	18,26	*14,71*	18,36	*14,79*
Module Efficiency	Eff	[%]	20,8		20,9		21,1		21,2		21,4		21,6		21,7	
Maximum Series Fuse	IR	[A]	30													
Maximum System Voltage	VSYS	[V]	1500V DC													

(1) Measurement Tolerances: Pmax (± 3%), Isc & Voc (± 3%) - Power Classification 0/+5W
(2) STC (Standard Testing Condition): Irrandiance 1000W/m², Cell Temperature 25°C, AM 1.5
(3) NMOT (Nominal Operating Module Temperature): Irrandiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Bi Facial Output (4)

POWER CLASS			645		650		655		660		665		670		675	
			Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*	Pmax [Wp]	*Eff [%]*
Power with Backside Gain	+5	[%]	677,3	*21,8%*	682,5	*22,0%*	687,8	*22,1%*	693,0	*22,3%*	698,3	*22,5%*	703,5	*22,6%*	708,8	*22,8%*
	+10	[%]	709,5	*22,8%*	715,0	*23,0%*	720,5	*23,2%*	726,0	*23,4%*	731,5	*23,5%*	737,0	*23,7%*	742,5	*23,9%*
	+15	[%]	741,8	*23,9%*	747,5	*24,1%*	753,3	*24,2%*	759,0	*24,4%*	764,8	*24,6%*	770,5	*24,8%*	776,3	*25,0%*
	+20	[%]	774,0	*24,9%*	780,0	*25,1%*	786,0	*25,3%*	792,0	*25,5%*	798,0	*25,7%*	804,0	*25,9%*	810,0	*26,1%*
	+25	[%]	806,3	*26,0%*	812,5	*26,2%*	818,8	*26,4%*	825,0	*26,6%*	831,3	*26,8%*	837,5	*27,0%*	843,8	*27,2%*
	+30	[%]	838,5	*27,0%*	845,0	*27,2%*	851,5	*27,4%*	858,0	*27,6%*	864,5	*27,8%*	871,0	*28,0%*	877,5	*28,2%*

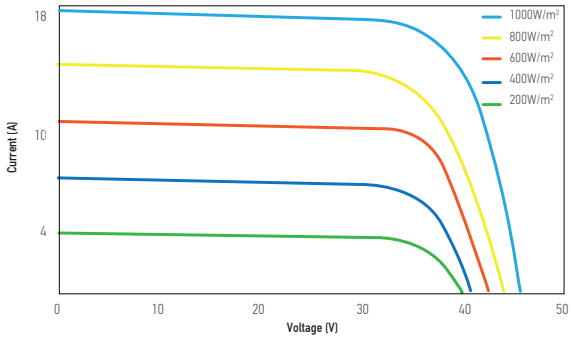
(4) Bifaciality Factor > 70% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

Dimensions	2384mm x 1303m x 35mm
Weight	38.5 Kg
Cell Type	PERC Mono - 210 x 35 mm - 414 pcs - G12
Front Glass	2.0mm Tempered and low iron glass + ARC
Rear Side	2.0mm Tempered and low iron glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 - 3 bypass diodes
Connector	MC4 compatible
Cable	4mm², +500mm/-1000mm (V), +220/-180mm (H) or customized

I-V Curve

The module relative power loss at low light irradiance of 200W/m² is less than 3%.



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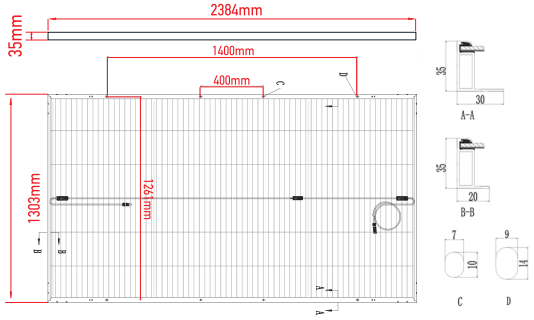

Temperature Characteristics

Pmax Temperature Coefficient	-0.34% / °C
Voc Temperature Coefficient	-0.27% / °C
Isc Temperature Coefficient	+0.04% / °C
Operating Temperature	-40~+85 °C
(NMOT) Nominal Module Operating Temperature	42.3 ± 2 °C

Packing Configuration

Container	40'HC
Pieces per Pallet	31
Pallets per Container	18
Pieces per Container	558

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**Release RCM-xxx-SDMT2(xxx=645-675)-N-G12-35-5G-15V-013-2022-06-v6.0