

N-TYPE MONO CRYSTALLINE HALF CUT MODULE - BACK CONTACT TECHNOLOGY - DOUBLE GLASS

635 / 640 / 645 / 650 / 655 / 660 / 665 / 670 Watts

BLACK TIGER SERIES



Overview

Black Tiger modules provide numerous benefits to customers seeking a high-quality product with exceptional performance and aesthetic, captivating design. The “Black Tiger” module utilizes N-Type cell technology in conjunction with a rear connection method known as BackContact. As a result, there is 0% front grid shadow loss, which increases the PV module’s yield. Due to reduced shading on the front of the cell, the module maximizes total cell area realizing higher efficiency and resulting in a fast return on investment.



Guaranteed mechanical resistance to severe weather conditions



Positive Tolerance



100 % electro-luminescence tested

Key Benefits



Zero Light Induced Degradation



25 Years Limited Product Warranty



0% Front Grid Shading Loss



Low Pmax Temperature Coefficient



Low LCOE

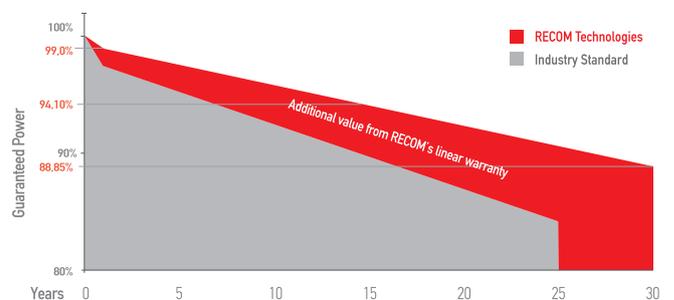


Higher Light Conversion

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 C according to UL790
Wind and Snow Static Loads	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	<ul style="list-style-type: none"> • 25-year limited product warranty • 15-year manufacturer warranty on 94,10% of the nominal performance • 30-year transferable linear power output warranty

Linear Performance Warranty



First Year Output $\geq 99.0\%$ | 2-30 Year Decline $\leq 0.35\%$ | 30 Year Output $\geq 88.85\%$

Black Tiger

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RCM-xxx-8DBRCM (xxx=635-670)

Electrical Characteristics

POWER CLASS ⁽¹⁾		635		640		645		650		655		660		665		670	
Testing Condition		STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power	Pmax [Wp]	635	483,4	640	487,2	645	491,0	650	494,8	655	498,6	660	502,4	665	506,2	670	510,0
Maximum Power Voltage	Vmp [V]	40,53	38,52	40,63	38,61	40,73	38,71	40,83	38,80	40,93	38,90	41,03	39,00	41,13	39,09	41,23	39,18
Maximum Power Current	Imp [A]	15,67	12,56	15,76	12,64	15,84	12,70	15,92	12,76	16,00	12,83	16,08	12,90	16,17	12,96	16,25	13,03
Open Circuit Voltage	Voc [V]	49,24	46,79	49,34	46,89	49,44	46,98	49,54	47,08	49,64	47,17	49,74	47,27	49,84	47,36	49,94	47,46
Short Circuit Current	Isc [A]	16,45	13,21	16,54	13,28	16,62	13,35	16,70	13,41	16,78	13,48	16,86	13,55	16,95	13,61	17,03	13,68
Module Efficiency	Eff [%]	23,5		23,7		23,9		24,1		24,2		24,4		24,6		24,8	
Maximum Series Fuse	IR [A]	35															
Maximum System Voltage	VSYS [V]	1500V DC (IEC/UL)															

(1) Measurement Tolerances: Isc & Voc (± 3%) - Power Classification 0/+5W

(2) STC (Standard Testing Condition): Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5

(3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Bi Facial Output (4)

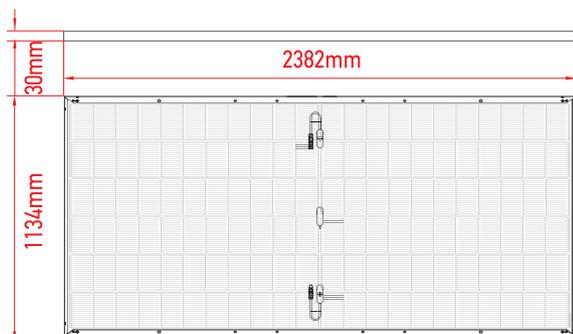
POWER CLASS		635		640		645		650		655		660		665		670	
		Pmax[Wp]	Eff [%]														
Power with Backside Gain	+5 [%]	666,8	21,5%	672,0	21,6%	677,3	21,8%	682,5	22,0%	687,8	22,1%	693,0	22,3%	698,3	22,5%	703,5	22,6%
	+10 [%]	698,5	22,5%	704,0	22,7%	709,5	22,8%	715,0	23,0%	720,5	23,2%	726,0	23,4%	731,5	23,5%	737,0	23,7%
	+15 [%]	730,3	23,5%	736,0	23,7%	741,8	23,9%	747,5	24,1%	753,3	24,2%	759,0	24,4%	764,8	24,6%	770,5	24,8%
	+20 [%]	762,0	24,5%	768,0	24,7%	774,0	24,9%	780,0	25,1%	786,0	25,3%	792,0	25,5%	798,0	25,7%	804,0	25,9%
	+25 [%]	793,8	25,6%	800,0	25,8%	806,3	26,0%	812,5	26,2%	818,8	26,4%	825,0	26,6%	831,3	26,8%	837,5	27,0%
	+30 [%]	825,5	26,6%	832,0	26,8%	838,5	27,0%	845,0	27,2%	851,5	27,4%	858,0	27,6%	864,5	27,8%	871,0	28,0%

(4) Bifaciality Factor > 75% - Back-side power gain depends upon the specific project albedo - Efficiency is according to the surface of the module

Mechanical Data

Dimensions	2382 mm x 1134 mm x 30 mm
Weight	33,5 Kg
Cell Type	RC-N-type - 132 (2 x 66 Pcs) - G12
Front Glass	2,0 mm Tempered and low iron glass
Rear Side	2,0 mm Tempered and low iron glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass diodes
Connector	MC4 compatible
Output cable	4mm ² - Length: = 1400 mm

Dimensions



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Temperature Characteristics

Pmax Temperature Coefficient	-0.260% / °C
Voc Temperature Coefficient	-0.200% / °C
Isc Temperature Coefficient	+0.050% / °C
Operating Temperature	-40 ~ +85 °C
Nominal Operating Module Temperature (NMOT)	45 ± 2 °C

Packing Configuration

Container	40' HC
Pieces per Pallet	36
Pallets per Container	18
Pieces per Container	(36+36) x 10 = 720 pcs

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