

Zosma™ S Black

PERC High efficiency Monofacial Single Glass Module

TS-SB54(410)



Excellent low irradiance performance.



Enhanced light trapping and optimized current collection contribute to the improvement of both module power output and reliability.



Industry leading lowest thermal coefficient of power.



Design optimized for lower operating current, resulting in minimized hot spot loss and improved temperature coefficient.

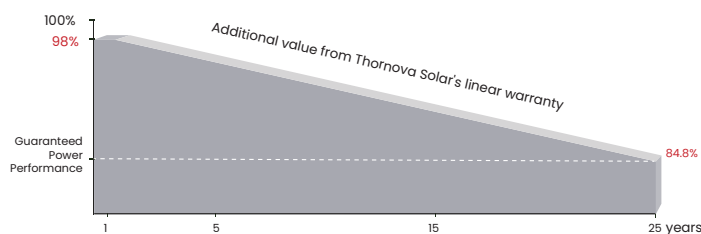


Certified to withstand:
wind load (2400 Pa) and
snow load (5400 Pa).



100% triple EL test
enables remarkable reduction of
module hidden crack rate.

LINEAR PERFORMANCE WARRANTY



25 years

Product Workmanship warranty

25 years

Linear power guarantee

0.55 %

Annual degradation Over 25 years

INSURANCE-BACKED WARRANTY SUPPORTED BY

Warranty partner



ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and Safety Assessment System Standard

COMPREHENSIVE CERTIFICATES

ELECTRICAL SPECIFICATIONS

STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

2×54cells

Model of modules	TS-SB54(410)
Maximum power — P_{mp} (W)	410
Open-circuit voltage — V_{oc} (V)	37.68
Short-circuit current — I_{sc} (A)	13.59
Maximum power voltage — V_{mp} (V)	31.84
Maximum power current — I_{mp} (A)	12.88
Module efficiency — η_m	21.0 %

STRUCTURAL CHARACTERISTICS

Module dimension (L*W*H)	67.80 x 44.65 x 1.38 inch (1722 x 1134 x 35 mm)
Weight	46.30 lbs (21.0 kg)
Number of cells	108 cells
Cell	PERC monocrystalline
Glass	Tempered, 3.2 mm AR, High transmittance, Low iron
Backsheet	Black backsheet
Frame	Black anodized aluminum alloy
Junction box	IP68 rated (3 diodes)
Output wire	4mm ² (IEC), 12 AWG (UL)
Wire length (Including Connector)	1200mm
Connector	MC4
Pieces per Pallet	31 pcs/Pallet
Pieces per Container (Normal/Weight-limited area)	806/806 pcs/40'HQ

OPERATING PARAMETERS

Power tolerance (W)	(0,+5)
Maximum system voltage (V)	1500
Maximum rated fuse current (A)	30
Current operating temperature (°C)	-40~+85 °C
Fire performance	Type 1

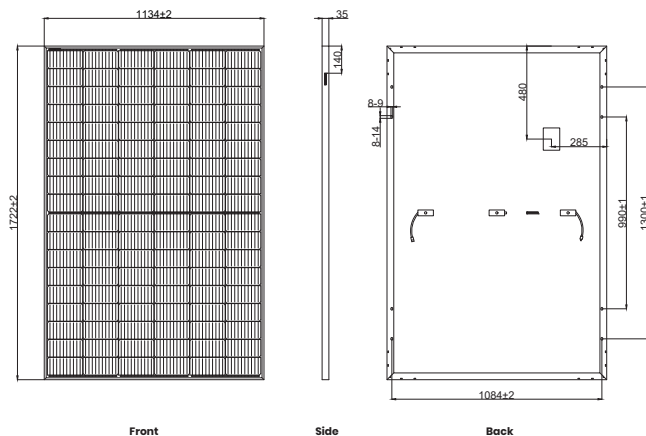
MECHANICAL LOADING

Front maximum load (Pa)	5400
Rear maximum load (Pa)	2400
Hailstone test (mm)	35

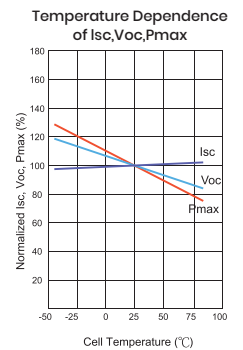
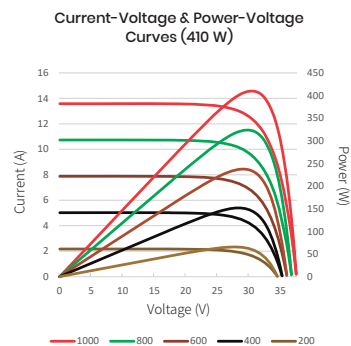
TEMPERATURE RATINGS

Temperature coefficient (P_{max})	-0.33 %/°C
Temperature coefficient (V_{oc})	-0.26 %/°C
Temperature coefficient (I_{sc})	+0.06 %/°C

MODULE DIMENSIONS (MM)



* The unmarked tolerance is ±1 mm
Length shown in mm



Scan the QR code to
get more information

Web: www.thornova-solar.com

E-mail: info@thornova-solar.com

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