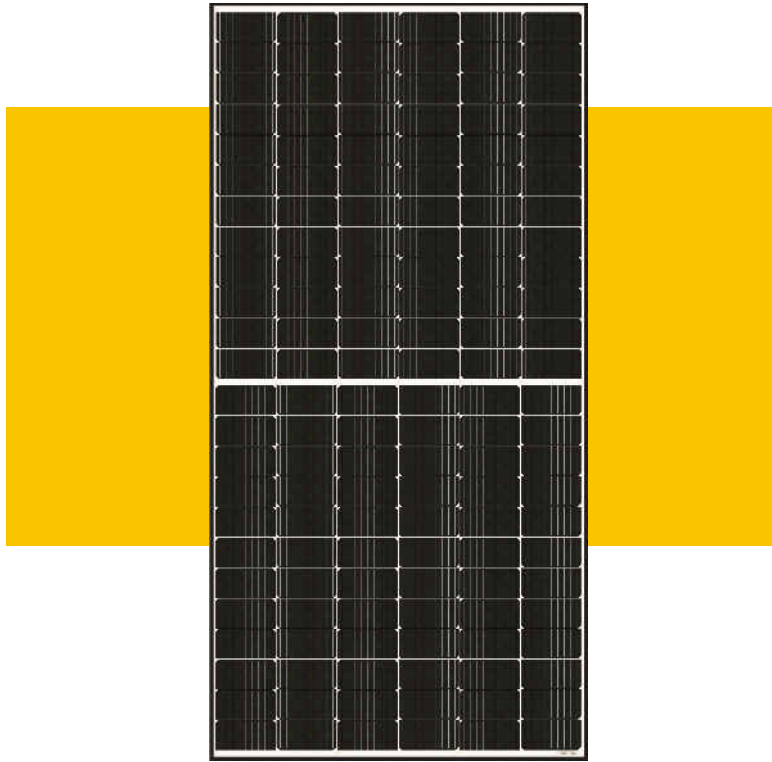









# MSMDxxxM6-72

## 166 M6 cells half cut

# 440W-460W



## KEY FEATURES

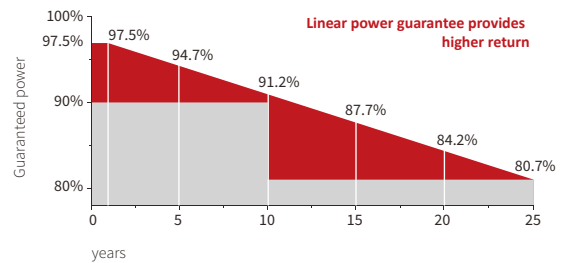
-  **Class A fire resistant (possible on request)**
-  **Outstanding performance in low-light conditions**
-  **Low temperature coefficient (Pmax): -0.35 % / °C**
- +5W** 0~+5W positive tolerance - to assure high output
-  **Lower internal current, lower hot spot temperature**
-  **Cell crack risk limited in small region, enhance the module reliability**
- PID FREE** Excellent anti-PID module design, TÜV SÜD certified
-  **Certified to withstand high wind loads (3600pa) and snow loads (8000pa) possible on request**
-  **Salt mist and ammonia corrosion resistant**

## PRODUCT CERTIFICATES



## WARRANTY

- Our linear power guarantee
- Standard linear power guarantee



**15 years** Enhanced product guarantee on product and workmanship

**25 years** Linear power output warranty

# MSMDxxxM6-72

## ELECTRICAL CHARACTERISTICS

STC	440	445	450	455	460
Maximum Power at STC (Pmax)	440 W	445W	450 W	455 W	460 W
Optimum Operating Voltage (Vmp)	41.0 V	41.2 V	41.4 V	41.6 V	41.8 V
Optimum Operating Current (Imp)	10.74 A	10.81 A	10.87 A	10.94 A	11.01 A
Open Circuit Voltage (Voc)	48.8 V	49.0 V	49.2 V	49.4 V	49.6 V
Short Circuit Current (Isc)	11.47 A	11.54 A	11.61 A	11.68 A	11.75A
Module Efficiency	20.2 %	20.4 %	20.7 %	20.9 %	21.1 %
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1500 V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	440	445	450	455	460
Maximum Power at NMOT (Pmax)	339.0 W	343.1 W	348.1 W	352.24 W	356.8W
Optimum Operating Voltage (Vmp)	38.7 V	38.9 V	39.2 V	39.4 V	39.6 V
Optimum Operating Current (Imp)	8.76 A	8.82 A	8.88 A	8.94 A	9.01 A
Open Circuit Voltage (Voc)	47.0 V	47.2 V	47.4 V	47.6 V	47.8 V
Short Circuit Current (Isc)	9.24 A	9.3 A	9.36 A	9.42 A	9.48 A

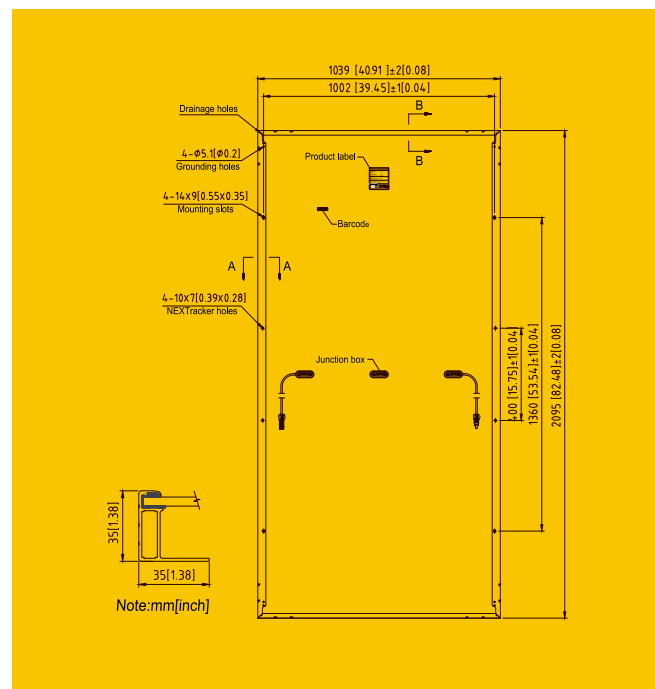
NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s.

## TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature (NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.35 %/°C
Temperature Coefficient of Voc	-0.304 %/°C
Temperature Coefficient of Isc	0.050 %/°C

## MECHANICAL CHARACTERISTICS

Solar Cell	Monocrystalline silicon 166 mm (9BB)
No. of Cells	144 (6 × 24)
Dimensions	2095 x 1039 x 35 mm
Weight	24 kgs
Front Glass	3.2 mm tempered glass
Frame	Black / Silver Frame Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , symmetrical lengths (-) 1400 mm and (+) 1400 mm



## PACKING CONFIGURATION

Container	20' GP	40' HC
Pieces per pallet	30+24	31+2
Pallets per container	5	22
Pieces per container	275	726

## Current-Voltage & Power-Voltage Curve (445S)

