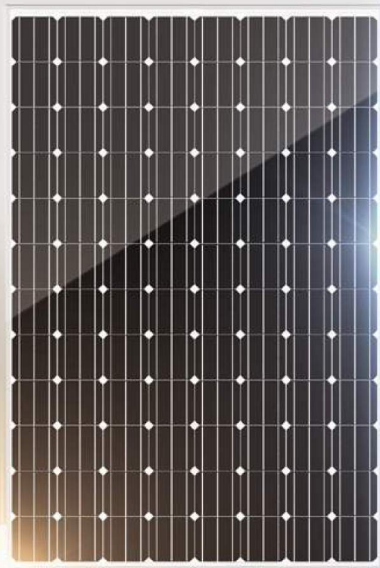


MONO CRYSTALLINE

SOLAR MODULE 415-450 Wp



TEMPERATURE COEFFICIENTS

VOLTAGE	-0.33 % / °C
CURRENT	0.032 % / °C
POWER	-0.45 % / °C
NOCT AVG	45 °C ±3

LIMITS

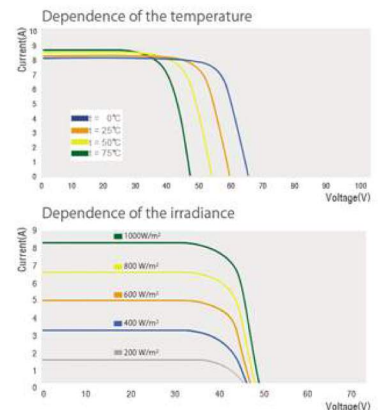
MAX. SYSTEM VOLTAGE
DC 1000V

OPERATING MODULE TEMPERATURE
-40°C TO +85°C (-40°F TO 185°F)

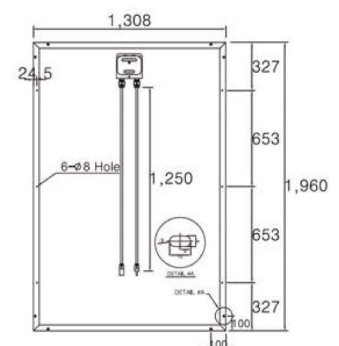
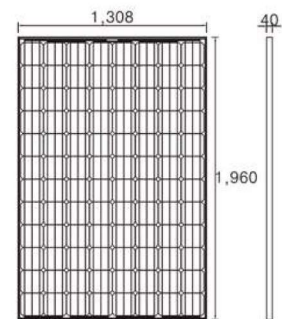
STORM RESISTANCE/STATIC LOAD
Tested to IEC61215 for loads
up to 5400Pa (113psf).
hail and wind resistant

WARRANTY - 10 YEARS
POWER OUTPUT 90% - 10 YEARS, 80% - 25 YEARS

* I-V Curve



* TECHNICAL DRAWINGS



* MECHANICAL CHARACTERISTICS

Solar cells	96PCS of 6"mono-crystalline
Front cover	Low iron tempered glass 4.0mm (0.157in)
Back cover	White polyester
Frame	Silver anodized aluminum alloy (40mm)
Cable and Connectors	12 AWG(4mm²) cables with polarized weatherproof connectors, cable length 1.25m (49.21in.)
Junction box	NEMA IP67 rated; 4 internal bypass diodes
Dimensions	1960 (77.16in.) X 1308 (51.50in.) X 40mm (1.57in.)
Approximate Weight	35kg(77.16lbs)

* ELECTRICAL SPECIFICATION

	TS-S415	TS-S420	TS-S425	TS-S430	TS-S435	TS-S440	TS-S445	TS-S450
Nominal power[Wp] - Pmpp	415	420	425	430	435	440	445	450
Voltage at nominal power[V] - Vmpp	48.49	48.73	49.02	49.2	49.44	49.67	49.95	50.21
Current at nominal power[A] - Impp	8.56	8.62	8.67	8.74	8.8	8.86	8.91	8.97
Open-circuit voltage[V] - Voc	60.45	60.65	60.97	61.29	61.58	61.97	62.27	62.48
Short-circuit current[A] - Isc	9.04	9.12	9.18	9.24	9.3	9.35	9.41	9.47
Module efficiency level[%]	16.2%	16.4%	16.6%	16.8%	17.0%	17.2%	17.4%	17.6%

Performance under standard test conditions (STC) : 1000W/m², 25°C, AM 1.5 / Output tolerance[%] 0~+3%