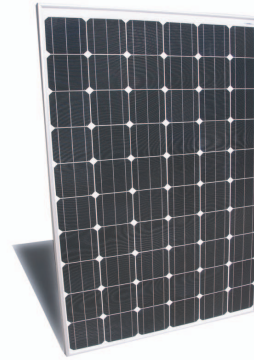


PHOTOVOLTAIC MODULES ISF- 230 / 235 / 240

Monocrystalline solar modules

- ◆ Maximum quality standards modules
- ◆ Ultrafine high efficiency cells
- ◆ Generating energy since 1981
- ◆ Strength and reliability
- ◆ Tested and certified by TÜV



PHYSICAL CHARACTERISTICS

CELL TYPE	With antireflection layer, textured, monocrystalline Si, size 156 x 156 mm (6x6 in)
CONTACTS	Redundant, multiple contacts in each cell
CELLS PER MODULE	60 cells in serial
STRUCTURE	1) Tempered, microstructured, high transmittance glass 2) EVA laminated cells 3) Tedlar/polyester back layers
FRAME	Anodized aluminum
GROUND	Yes
ANTITHEFT DRILL	Yes
INTERCONNECTION	PCB
INTERCONNECTION BOXES	1 x IP 65 with bypass diode
WIRES	1 m (+); 1 m (-); 4 mm ² Multicontact MC4 or similar



For further details, please visit isofoton.com

TYPICAL VALUES FOR SYSTEM INTEGRATION

MAXIMUM VOLTAGE ALLOWED	1.000 V
REVERSE CURRENT OVERLOAD	2 h overload at 135% maximum protection value
MAXIMUM MECHANICAL LOAD ALLOWED	5.400 Pa (0,78 psi)
OPERATION CONDITIONS	- 40 °C to 85 °C (-40 to 185 °F)
IMPACT RESISTANCE	25 mm(0.98 in) hail, from 1 m (39,37 in) of distance at 23 m/s (51.45 mph)

GENERAL CHARACTERISTICS

DIMENSIONS	1.667 x 994 x 45 mm (65,63x39,1x1,17 in)
WEIGHT	19 kg (41.89 lb)
PACKAGING CONDITIONS	20 modules per packing unit
PACKAGING SIZE	1.725 x 1.055 x 1.245 mm (67,91x43,06x50,82 in) (recyclable materials)



PERFORMANCE AT STANDARD TEST CONDITIONS (STC)

	ISF-230	ISF-235	ISF-240
MAXIMUM POWER RATING - P_{max} - (W)	230	235	240
OPEN CIRCUIT VOLTAGE - V_{oc} - (V)	36,6	36,8	37,1
MAXIMUM POWER VOLTAGE - V_{mpp} - (V)	29,7	30,0	30,3
SHORT CIRCUIT CURRENT - I_{sc} - (A)	8,36	8,42	8,45
MAXIMUM POWER CURRENT - I_{mpp} - (A)	7,75	7,84	7,94
EFFICIENCY (%)	13,9	14,2	14,5
OUTPUT TOLERANCE (% P_{max})	±3%	±3%	±3%

Measured in Class A solar simulator, according to IEC-60904-9 Ed.2, certified by TÜV Rheinland

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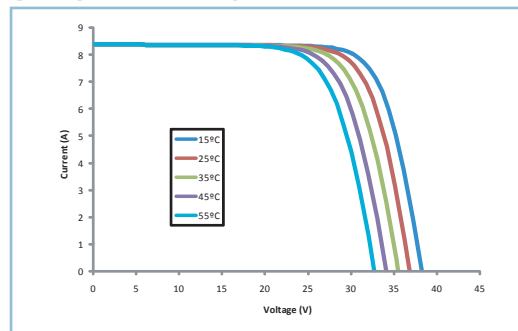
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PERFORMANCE AT 800 W/m², NOCT, AM 1,5

	ISF-230	ISF-235	ISF-240
MAXIMUM POWER RATING - P_{max} - (W)	163	167	170
OPEN CIRCUIT VOLTAGE - V_{oc} - (V)	33,1	33,3	33,6
MAXIMUM POWER VOLTAGE - V_{mpp} - (V)	26,4	26,6	26,9
SHORT CIRCUIT CURRENT - I_{sc} - (A)	6,73	6,78	6,80
MAXIMUM POWER CURRENT - I_{mpp} - (A)	6,24	6,31	6,39
OUTPUT TOLERANCE (% P_{max})	±3%	±3%	±3%

Efficiency reduction from 1000 W/m² to 200 W/m² at 25°C, according to standard 60904-1: 5% (+/-3%)

ISF-230 I-V VARIATION ACCORDING TO CELL'S TEMPERATURE



TEMPERATURE COEFFICIENTS

NOCT	47°C +/- 2°C
CCT I_{sc}	0,0294 %/K
CCT V_{oc}	-0,387 %/K
CCT P_{max}	-0,48 %/K

REMARKS:
All specifications are subject of change without prior notification by ISOFOTÓN S.A. This commercial sheet meets the requirements of EN 50380

DIMENSIONS

