



PANELES SOLARES FOTOVOLTAICOS CRISTALINOS CRYSTALLINE (C-si) PV SOLAR MODULES



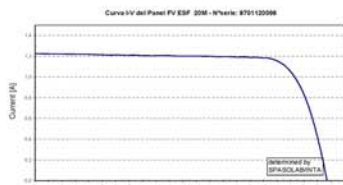
Datos técnicos / Technical data

MODELO / MODEL	ESF-20MA	ESF-20PA	ESF-50MA	ESF50PA
Potencia nominal Pmax (W) Nominal Power Pmax (W)	20	20	50	50
Tolerancia (%) Tolerance (%)	-3%/+5%	-3%/+5%	-3%/+5%	-3%/+5%
Tipo de célula Kind of cell	Monocristalina Monocrystalline	Policristalina Polycrystalline	Monocristalina Monocrystalline	Policristalina Polycrystalline
Células por módulo Cells per module	2 X 18= 36	2 X 18= 36	40	40
Eficiencia de conversión Conversion efficiency	11.11%	11.11%	13.02%	13.02%
Forma de la célula (mm x mm) Shape of cell (in x in)	125 x 31.25 5" x 1.23"	125 x 31.25 5" x 1.23"	125 x 62.5 4.92" x 2.46"	125 x 62.5 4.92" x 2.46"
Tensión máx. potencia Mpp Vmp(V) Voltage Mpp Vmp (V)	16.8V	16.8V	20.28V	20.28V
Corriente máx. potencia Mpp Imp(A) Current Mpp Imp (A)	1.19A	1.19A	2.46A	2.46A
Tensión circuito abierto Voc(V) Volt open circuit Voc(V)	21.0V	21.0V	24.76V	24.76V
Corriente corto circuito Isc(A) Short circuit current Isc(A)	1.32A	1.32A	2.74A	2.74A
NOCT (C)	47°C	47°C	46°C ± 2°C	46°C ± 2°C
Máximo voltaje del sistema (V) Max system volt (V)	715V	715V	750V	750V
Longitud (mm) Length (in)	636 25.03	636 25.03	710 27.95	710 27.95
Anchura (mm) Width (in)	283 11.14	283 11.14	541 21.29	541 21.29
Espesor (sin caja) (mm) Thickness (in)	25 0.98	25 0.98	35 1.37	35 1.37
Peso (kg) Net weight (Lb)	2.2 1.76	2.2 1.76	6.5 3.30	6.5 3.30
Tipo de marco Kind of frame	Alu	Alu	Alu	Alu
Tipo de cristal y espesor (mm) Kind of frame and its thickness (in)	PPG 3.2 mm 0.12"	PPG 3.2 mm 0.12"	3.2 mm 0.12"	3.2 mm 0.12"
Número de diodos Number of diods	1	1	2	2
Tipo de diodos Type of diods	10A10 NB	10A10 NB	10SQ045	10SQ045
Coef. de temp. de corriente Iso mA/°C Temp. Coefficient current Iso mA/°C	+0.08%/°C	+0.08%/°C	+0.06 ± 0.01%/K	+0.06 ± 0.01%/K
Coef. de temp. de voltaje Voc mV/°C Temp. Coefficient voltage Voc mV/°C	-0.37%/°C	-0.37%/°C	-155 ± 10mV/K	-155 ± 10mV/K
Coef. de temp. de potencia Pmax/°C Temp. Coefficient power Pmax/°C	-0.44%/°C	-0.44%/°C	-0.5 ± 0.05%/K	-0.5 ± 0.05%/K
Unidades por embalaje Units per carton	5 uds. /pcs.	5 uds. /pcs.	2 uds. /pcs.	2 uds. /pcs.
Unidades por contenedor (20") Packing in container (20 ft)	2.824 uds./ pcs.	2.824 uds./ pcs.	1.356 uds./pcs.	1.356 uds./pcs.
Unidades por contenedor (40") Packing in container (40 ft)	5.846 uds./pcs.	5.846 uds./pcs.	2.748 uds./pcs.	2.748 uds./pcs.
Unidades por contenedor (40"H.C.) Packing in container (40 ft H.C.)	6.834 uds./pcs.	6.834 uds./pcs.		

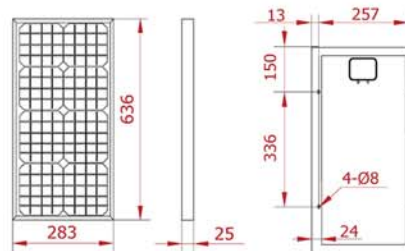
Curvas y dimensiones / Curves and dimensions



ESF- 20PA ESF- 20MA



CURVAS/ CURVES
ESF-20MA



DIMENSIONES/DIMENSIONS
ESF-20MA ESF-20PA

* Sólo como referencia, cada panel se suministrará con su correspondiente flash report/ Only for reference each module will be supplied with corresponding flash report
* Todas las especificaciones están sujetas a cambios sin previo aviso/ All the specifications are subject to change without previous notice.

ESF-20MA ESF-20PA ESF-50MA ESF-50PA