

use the sun twice



Datasheet Solator PV+THERM ONROOF

Description:

ONROOF – Hybridmodul

Code:

SO-PV+THERM-ONROOF-250 (or 190)

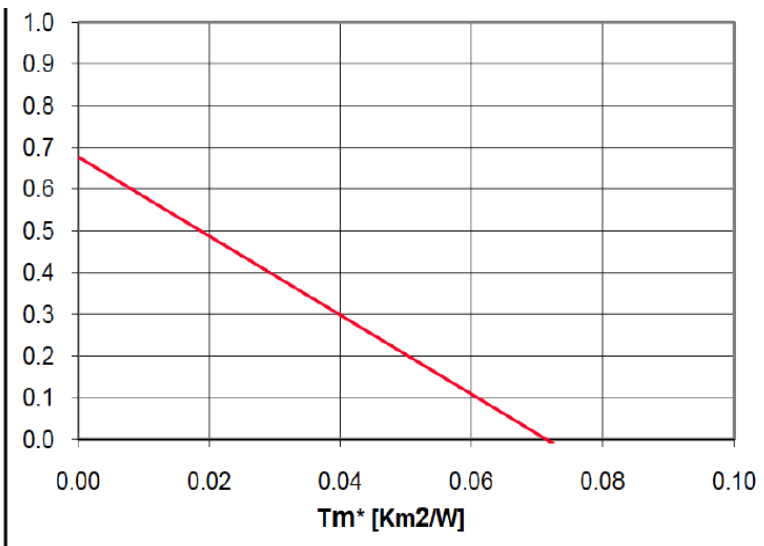


Mechanical Characteristics	Solator PV+THERM ONROOF 190 Wp	Solator PV+THERM ONROOF 250 Wp
Dimension:	1580 x 808 x 40 mm	1580 x 1069 x 45 mm
Weight:	25 kg	32 kg
Cell size:	72 pcs. 125x125mm , monocrystalline	96 pcs.. 125mm x 125 mm, monocrys.
Operating temperature:	- 40 C bis + 85 C	- 40 C bis + 85 C
Other sizes:	On request	On request
Color of frame:	Black	Black
Glass:	3,2 mm high transmission, tempered glass	3,2 mm high transmission, tempered glass

Electrical Characteristics:		
Max. Power Pm(W):	190 Wp + 5%	250 Wp + 5%
Modul Efficiency:	14,9 %	14,8 %
Max. Power Voltage Vm(W):	36,5 V	52 V
Max. Power Current Im(A):	5,2 A	4,9 A
Open circuit Voltage Voc:	45,2 V	61,7 V
Short circuit Voltage Isc:	5,6 A	5,4 A
Max. System Voltage (VDC):	DC 1000 V	DC 1000 V
Temperature Coefficients:	Isc 0,0981 %/K Voc -0,5186 %/K Pmax - 0,46 %/K	Isc 0,0981 %/K Voc -0,5186 %/K Pmax -0,47 %/K

Thermal Characteristics:	Solator PV+THERM ONROOF 190 Wp	Solator PV+THERM ONROOF 250 Wp
Absorber area:	1,2 m2	1,5 m2
Liquid content :	0,6 Liter	0,8 Liter
Operating pressure:	3-4 bar, max. 6 bar;	3-4 bar, max. 6 bar
Flow rates:	Max. 90 Liter / h	Max. 90 Liter / h
Connection:	Copper pipe d= 12mm , l: 25mm;	Copper pipe d=12mm, l: 25mm;
Operating fluid:	Water / glycol 60:40	Water / glycol 60:40
Pressure drop Δp :	22 mbar at 1,5 l/min 116 mbar at 3,3 l/min	25 mbar at 1,5 l/min 120 mbar at 3,3 l/min

Efficiency approx. per m2 absorber area at G=800 W/m2:



$$\eta(T_m^*) = \eta_0 - a_1 \cdot T_m^* - a_2 \cdot G \cdot T_m^{*2} \quad [T_m^* = (t_m - t_a)/G]$$

Thermal performance:	
Absorber area:	1,2 m2
Liquid content :	0,6 Liter
Efficiency at:	
η ($T_m = 0,00$):	0,677
η ($T_m = 0,03$):	0,393
η ($T_m = 0,06$):	0,109
Output per m2 absorber area: G=1000 Wm ⁻²	
$t_m = t_a$ (peak power):	786
$t_m - t_a = 10$ K	676
$t_m - t_a = 30$ K	456
$t_m - t_a = 50$ K	236

