



**MBB HC MONOCRYSTALLINE  
PHOTOVOLTAIC MODULE  
535W-545W**

**ZES-535/545-HC182-01**

ZES solar modules are designed with 182mm multi busbar and Half-cut cell technology. They have high efficiency and are guaranteed by Zorlu Energy.

**HC182-01**  
Series

**545W<sub>p</sub>**

Maximum Module Power

**0~+5W**

Positive Power Tolerance

**20,71%**

Maximum Module Efficiency

**WARRANTY**



**Product Warranty**



**Linear Performance Warranty**

**PRODUCTION FACILITY CERTIFICATES**

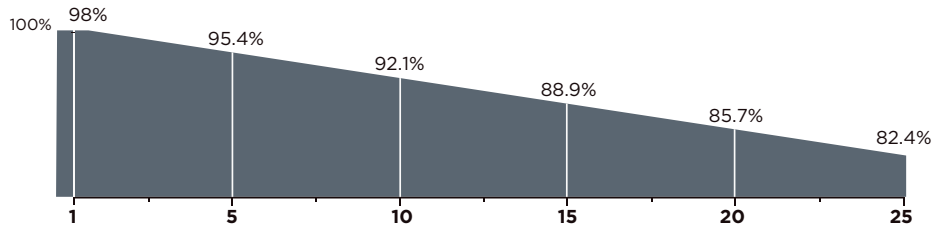
**ISO** ISO 9001, ISO 14001, ISO 18001,

**PRODUCT CERTIFICATES**



IEC 61215-1, IEC 61215-1-1, IEC 61215-2,  
IEC 61730-1, IEC 61730-2, IEC 61701,  
IEC 62804, IEC 62716, OHSAS 18001

**Linear Degradation Warranty**



For detailed information and requests:  
**0850 339 99 37/zorluenerji.com.tr**

## MECHANICAL CHARACTERISTICS

Dimensions	2298 x 1145 x 42 mm
Weight	29 kg
Cell Type	PERC Monocrystalline 182 x 91mm (144 pcs)
Front Glass	3.2mm AR Coating Tempered Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68, 3 diodes -MC4 Compatible/ MC4 Original
Output Cables*	4.0 mm <sup>2</sup> , 350 mm - 1200 mm - 1700 mm
Pressure Rating	Front (Snow) 5400Pa / Back (Wind) 2400Pa

\*Output cables length must be specify at order.

\*\*Connector type must be specify at order.

## PACKAGING

Pallet Dimensions (Length, Width, Height)	2344 x 1135 x 1303 mm	
Pallet Weight	800 kg	
Container	20'GP	40'HC
Number of Modules in One Pallet	26	26
Number of Pallet in One Container	5	20
Number of Modules in One Container	130	520

## ELECTRICAL CHARACTERISTICS

STC Nominal Power (Pmpp)	535 W		540 W		545 W	
	STC	NOCT	STC	NOCT	STC	NOCT
STC Maximum Power (Pmp) (W)	535	406.6	540	410,4	545	414,2
Open Circuit Voltage (Voc) (V)	49,11	46	49,25	46,13	49,33	46,21
Short Circuit Current (Isc) (A)	13,56	10,86	13,58	10,87	13,59	10,88
Maximum Power Voltage (Vmp) (V)	41,91	39,26	42,06	39,40	42,13	39,46
Maximum Power Current (Imp) (A)	12,85	10,42	12,92	10,48	12,96	10,51
STC Module Efficiency (nm) (%)	20,33		20,52		20,71	
Power Tolerance (W)	(0,+5)					
Maximum System Voltage	1500 VDC					
Maximum Circuit Breaker	25A					

\*Measurement Tolerance +/- 3%

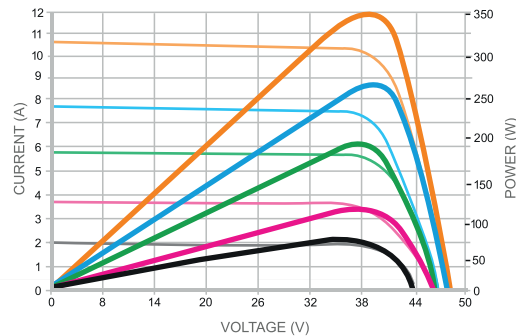
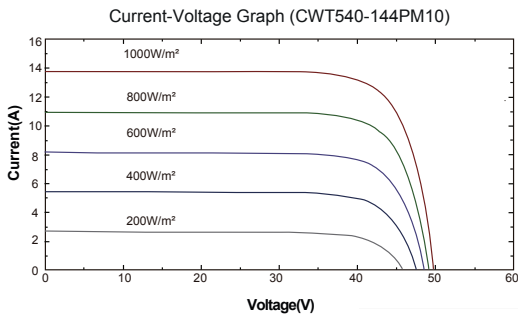
STC: Radiation 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

NOCT: Radiation 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind speed 1m/s

## TEMPERATURE CHARACTERISTICS

Temperature Coefficients of Pmax	-0.311 %/°C
Temperature Coefficients of Voc	-0.237 %/°C
Temperature Coefficients of Isc	+0.040 %/°C
Operating Temperature	-40-+85°C
Nominal Operating Cell Temperature (NOCT)	45±2°C

## I-V CURVE



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