

# Cigs-3000A1 Series

## High Performance Cd-Free CIGS

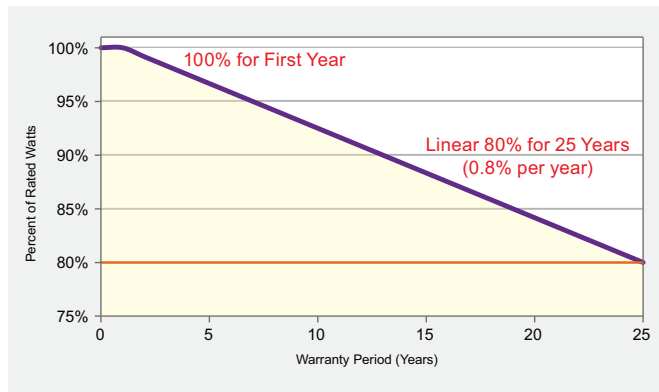
### Thin Film Modules

#### MAX SYSTEM 1000V CIGS MODULES

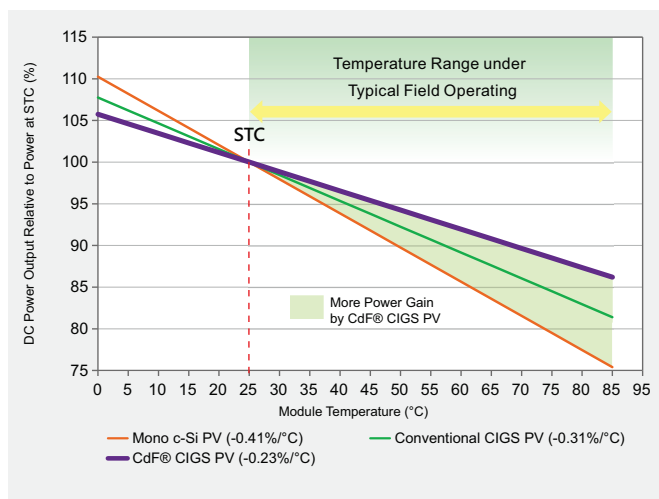
### CIGS Competitive Advantages

- PID- free, LID-free
- No microcrack problem
- Less solder joints than C-Si
- No glint/glare problem
- Low shadow impact
- RoHs compliant
- Free of Lead, Cadmium, Tellurium, Arsenic

### Linear Pmax. Performance Warranty

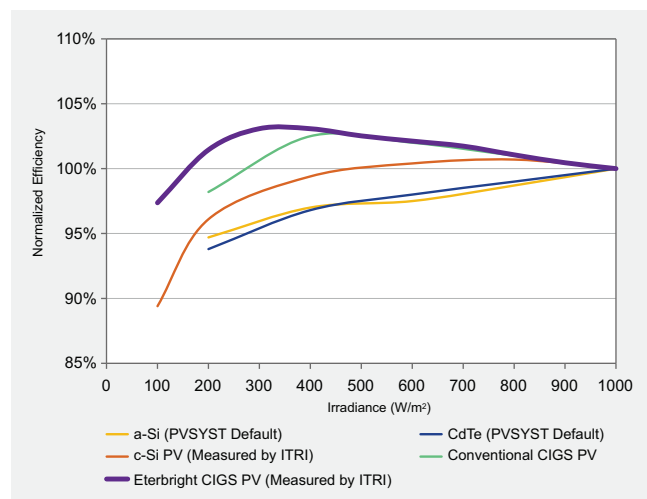


### Lowest Temperature Coefficient (-0.28%/°C)



In tropical areas i.e. desert regions, equatorial regions, subtropical regions or high temperature areas, CIGS module will be the only choice.

### High Performance Cd-Free CIGS PV Technology Comparison of Normalized Efficiency



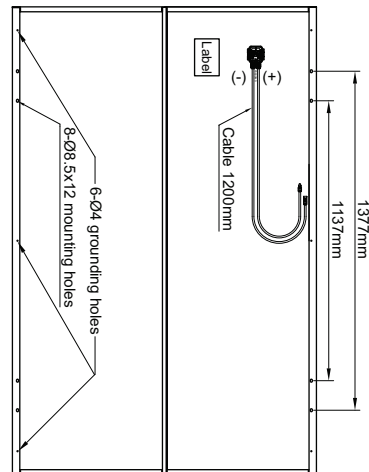
Eterbright Cd-Free CIGS PV performs better normalized efficiency under lower irradiance.



## Mechanical Specification

Dimensions	1900mm x 1235mm x 45mm (74.8 inches x 48.6 inches x 1.8 inches)
Weight	33.3 kg (73.41lbs)
Cell type	CIGS thin film
Front cover	2.5mm tempered glass with ARC
Cell substrates	1.8mm ultra-thin soda lime glass x 3
Back cover	Al back sheet
Encapsulant	EVA
Frame	Anodized Al frame (black) with screw mounting
Junction Box	IP67 rated with bypass diode
Connectors	MC4 compatible
Cable length	1200mm (47.2 inches)

## Module Drawing



## Electrical Specification

Power performance at STC (STC: 1000W/m<sup>2</sup>, 25°C/77°F, AM 1.5)\*

Module Models	Cigs-	3350A1	3400A1	3450A1	3500A1	3550A1	3600A1
Nominal power	P <sub>MPP</sub> [W]	335	340	345	350	355	360
Power tolerance	[W]	0~+5	0~+5	0~+5	0~+5	0~+5	0~+5
Open circuit voltage	V <sub>OC</sub> [V]	75.3	75.6	75.8	76.1	76.4	76.6
Short circuit current	I <sub>SC</sub> [A]	6.44	6.44	6.44	6.44	6.44	6.44
Voltage at P <sub>MPP</sub>	V <sub>MPP</sub> [V]	56.8	57.4	58.1	58.7	59.3	60.0
Current at P <sub>MPP</sub>	I <sub>MPP</sub> [A]	5.89	5.91	5.93	5.95	5.97	5.99
Module efficiency	[%]	≥ 14.2	≥ 14.4	≥ 14.6	≥ 14.9	≥ 15.2	≥ 15.4

Power performance at NOCT (NOCT: 800W/m<sup>2</sup>, 20°C/68°F, AM1.5)\*

Module Models	Cigs-	3350A1	3400A1	3450A1	3500A1	3550A1	3600A1
Nominal power	P <sub>MPP</sub> [W]	256.1	259.8	263.6	267.4	271.4	275.2
Open circuit voltage	V <sub>OC</sub> [V]	71.8	72.0	72.2	72.5	72.7	73.0
Short circuit current	I <sub>SC</sub> [A]	5.16	5.16	5.16	5.16	5.17	5.17
Voltage at P <sub>max</sub>	V <sub>MPP</sub> [V]	54.7	55.3	55.8	56.4	56.7	57.4
Current at P <sub>max</sub>	I <sub>MPP</sub> [A]	4.68	4.69	4.72	4.74	4.79	4.81

\*All STC characteristics are measured after pre-treatment of 43kWh/m<sup>2</sup> light soaking.  
Measurement uncertainty: (P<sub>MPP</sub>: +5%/ -3%; I<sub>SC</sub>, V<sub>OC</sub>, I<sub>MPP</sub>, V<sub>MPP</sub>: ±10%)



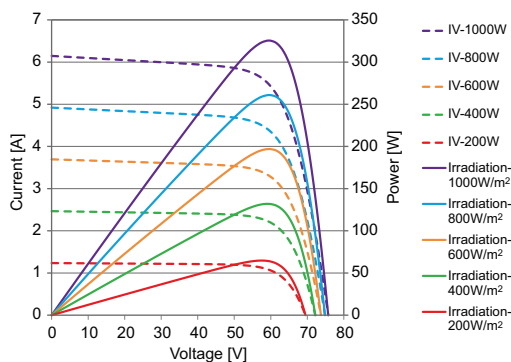
### Temperature coefficients

NOCT	TC I <sub>SC</sub> (α)	TC V <sub>OC</sub> (β)	TC P <sub>MPP</sub> (δ)
46°C	+0.01%/°C	-0.27%/°C	-0.28%/°C

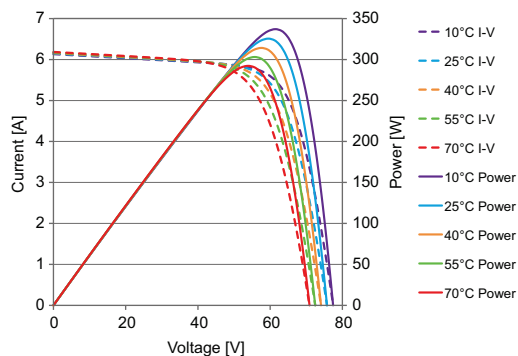
### Properties for solar system construction design

Max. system voltage (V <sub>sys</sub> )	Max. series overcurrent protective devices	Mechanical load	Safety class	Fire rating	Operating temperature
1000V	8A	5400Pa	II	Class C(IEC) Type 1(UL)	-40 ~ 85°C

I-V curves at various irradiation



I-V curves at various temperature



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