

# KC50T-1

High efficiency multicrystal photovoltaic module



## EXAMPLES OF APPLICATION

- Stand-alone systems (e.g. electrifying remote houses, holiday homes and allotment systems, etc.)
- Supplying electricity to outlying villages and medical institutions in rural areas and development zones
- Emergency power supply, protection against catastrophes
- Pumping systems (e.g. drinking water supply and irrigation)
- Telecommunications (e.g. mobile phone networks, booster stations, etc.)
- Oil & gas (e.g. corrosion proofing, control, monitoring, etc.)



## CUTTING-EDGE TECHNOLOGY

Exhaustive research work, continuous further development of production processes and highly automated production enable polycrystalline Kyocera solar modules to attain an exceptional standard of quality and markedly high levels of efficiency.

The integrated Kyocera high-performance solar cells with a standard size of 15 cm x 15.5 cm achieve over 16% efficiency, guaranteeing an extremely high annual yield of energy from the photovoltaic system.

To protect against the harshest weather conditions, the cells are embedded between a reinforced glass covering (hailstorm resistance complying with IEC 61215, tested by TÜV) and EVA foil, and are sealed with a PET foil backing. The laminate is set in a sturdy aluminum frame which is easy to assemble.

The back of the junction box is equipped with bypass diodes that eliminate the risk of the individual solar cells overheating (hot spot effect). The solar cables ensure flexible installation in the junction box which definitely simplifies the installation of stand-alone solutions in particular.

Kyocera manufactures all the components at its own production sites – without buying in semi-finished products – to ensure consistently high product quality.

TUVdotCOM Service: Internet platform for tested quality and service  
TUVdotCom-ID: 0000007146  
IEC 61215 and Safety Class II  
Kyocera is ISO 9001 and ISO 14001 certified and registered.

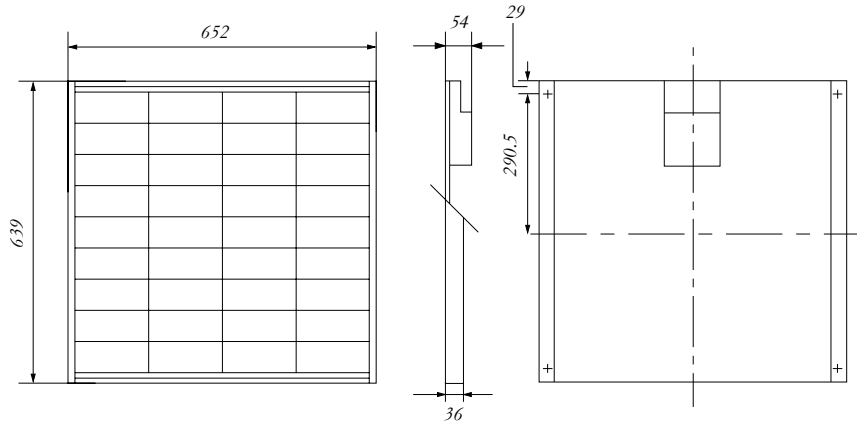


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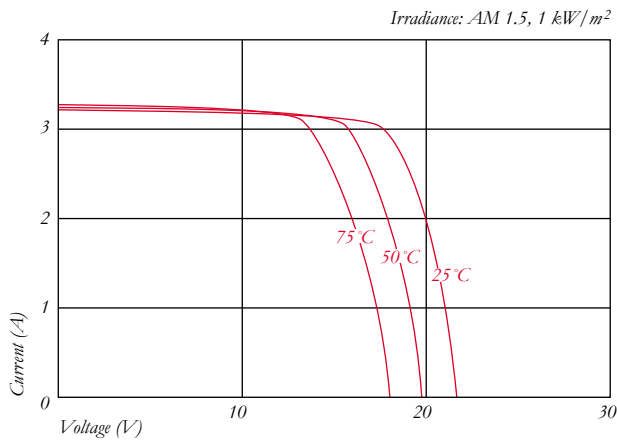
## SPECIFICATIONS

in mm

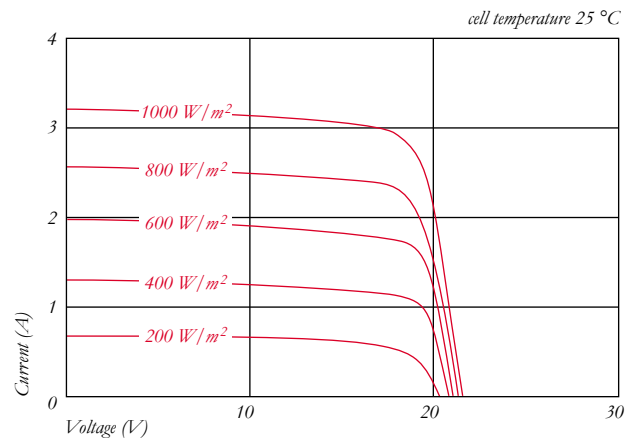


## ELECTRICAL CHARACTERISTICS

Current-Voltage characteristics at various cell temperatures



Current-Voltage characteristics at various irradiance levels



## ELECTRICAL PERFORMANCE

PV module type		KC50T-1
<b>At 1000 W/m<sup>2</sup> (STC)*</b>		
Maximum Power	[W]	54
Maximum System Voltage	[V]	750
Maximum Power Voltage	[V]	17.4
Maximum Power Current	[A]	3.11
Open Circuit Voltage (V <sub>OC</sub> )	[V]	21.7
Short Circuit Current (I <sub>SC</sub> )	[A]	3.31
<b>At 800 W/m<sup>2</sup> (NOCT)**</b>		
Maximum Power	[W]	38
Maximum Power Voltage	[V]	15.3
Maximum Power Current	[A]	2.49
Open Circuit Voltage (V <sub>OC</sub> )	[V]	19.7
Short Circuit Current (I <sub>SC</sub> )	[A]	2.67
<b>NOCT</b>		
NOCT	[°C]	47
Power tolerance	[%]	+15 / -5
Temperature Coefficient of V <sub>OC</sub>	[V/°C]	-8.21x10 <sup>-2</sup>
Temperature Coefficient of I <sub>SC</sub>	[A/°C]	1.33x10 <sup>-3</sup>
Reduction of efficiency (from 1000 W/m <sup>2</sup> to 200 W/m <sup>2</sup> )	[%]	6.2

## DIMENSIONS

Length	[mm]	639
Width	[mm]	652
Depth / incl. junction box	[mm]	36 / 54
Weight	[kg]	5.0
Connection type		Screw terminals
Junction box	[mm]	120x180x46
IP Code		IP65

## GENERAL INFORMATION

Performance guarantee	10*** / 20 years****
Warranty	2 years

## CELLS

Number per module	36
Cell Technology	multicrystal
Cell Shape	rectangular
Cell Bonding	3 busbar

\* Electrical values under standard test conditions (STC): irradiation of 1000 W/m<sup>2</sup>, airmass AM 1.5 and cell temperature of 25 °C

\*\* Electrical values under normal operating cell temperature (NOCT): irradiation of 800 W/m<sup>2</sup>, airmass AM 1.5, wind speed of 1 m/s and ambient temperature of 20 °C

\*\*\* 10 years on 90% of the minimally specified power P under standard test conditions (STC).

\*\*\*\* 20 years on 80% of the minimally specified power P under standard test conditions (STC).

Your local Kyocera dealer:

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## KYOCERA SOLAR

**We care!**

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