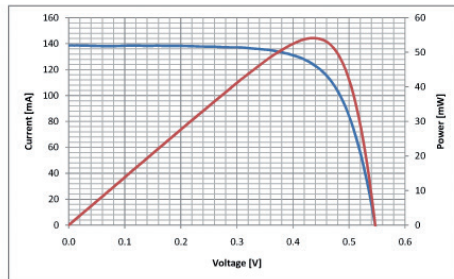


# Si reference solar cell

Device Code: ReRaRef2      Irradiance: 1000 W/m<sup>2</sup>  
 Date: 10-Dec-08 10:43      Spectrum: AM1.5G  
 Reference: PVM199      Temperature: 25.4 °C  
 Area: 5 cm<sup>2</sup>      Corrected to STC: Yes



I<sub>sc</sub> 138.5 mA      J<sub>sc</sub> 27.7 mA/cm<sup>2</sup>  
 V<sub>oc</sub> 547 mV      I<sub>mpp</sub> 123.6 mA  
 FF 71.5 %      V<sub>mpp</sub> 438 mV  
 Eta 10.8 %

Source: Abet Technologies Solar Simulator  
 Load: Keithley 2400  
 Temperature: Pt100  
 Software: ReRa Tracer  
 Contact calibration lab for error analysis

Approved:  
  
 E. Haverkamp



Si reference cell

## Calibration certificate

- Calibrated against NREL secondary standard
- Irradiance and temperature readout
- Protective quartz or Schott KG glass window
- Open and shunted version
- Integrated with Tracer IV software

This solar reference cell is an integral accessory for each solar simulator or IV test station. It consists of a 20 mm x 20 mm calibrated monocrystalline silicon photovoltaic cell encased in a metal enclosure with a protective quartz window and a Pt100 temperature sensor. The solar reference cell comes with a compatible set of connecting cables.

The calibration against an NREL secondary cell is certified by the PV Measurement Facility at Radboud University Nijmegen.

These reference cells are also available as protective windows with different Schott KG glasses.

It is available as both open or shunted version so it can be adapted to almost every application.

Specifications	
Material	Mono crystalline silicon
Area	20 mm x 20 mm
Dimensions (l x w x h)	104 mm x 74 mm x 14 mm
Operating temperature	10° C .. 40° C
Environment	Indoor usage
Solar cell connection	4 wire (shunted version: 2 wire)
Protective window	Quartz
Temperature sensor	Pt100 (3 wire connection)
Sockets (cell and Pt100)	2 x LEMO EGG.00.304.CLL or 1 x LEMO FGG.00.304.CLAD35
Parameters	I <sub>sc</sub> , V <sub>oc</sub> , I <sub>mpp</sub> , V <sub>mpp</sub> , Fill factor, efficiency (shunted version: I <sub>sc</sub> only)
Calibration	AM1.5 G, 25 °C, 1000 W/m <sup>2</sup>
Typical I <sub>sc</sub>	140 mA
Error I <sub>sc</sub>	±3%

Ordering information Si reference cell	
LS0041	Si reference solar cell, area: 20 mm x 20 mm, open version
LS0042	Si reference solar cell, area: 20 mm x 20 mm, shunted version, 1 Ω
LS0043-KG1	Schott KG1 filter replaces standard quartz window
LS0043-KG2	Schott KG2 filter replaces standard quartz window
LS0043-KG3	Schott KG3 filter replaces standard quartz window
LS0043-KG4	Schott KG4 filter replaces standard quartz window
LS0043-KG5	Schott KG5 filter replaces standard quartz window