

Si reference solar cell

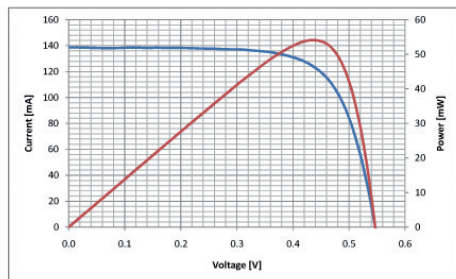
Radboud University Nijmegen



PV Calibration Laboratory Nijmegen

Device Code: ReRaRef2
Date: 10-Dec-08 10:43
Reference: PVM199
Area: 5 cm²

Irradiance: 1000 W/m²
Spectrum: AM1.5G
Temperature: 25.4 °C
Corrected to STC: Yes



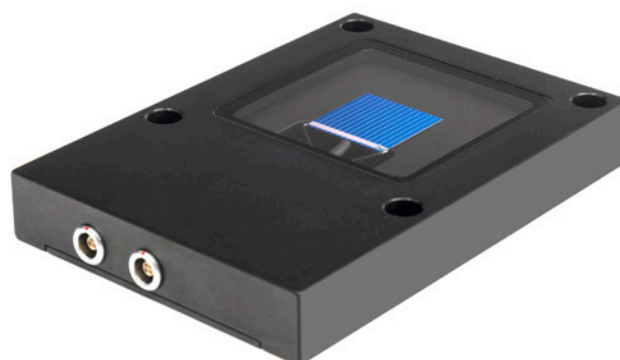
I_{sc} 138.5 mA
 V_{oc} 547 mV
FF 71.5 %
Eta 10.8 %

J_{sc} 27.7 mA/cm²
 I_{mpp} 123.6 mA
 V_{mpp} 438 mV

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	Isc, Voc, Imp, Vmp, Fill factor, efficiency (shunted version: Isc only)
Calibration	AM1.5 G, 25 °C, 1000 W/m ²
Typical Isc	140 mA
Error Isc	±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



Quantum Design
EUROPE

Quantum Design GmbH
Im Tiefen See 58
D-64293 Darmstadt

Jörg Tobisch : +49 6151 8806 50
tobisch@qd-europe.com
Find your local contact at www.qd-europe.com