



# Photo Emission Tech., Inc.

760 Calle Plano, Camarillo, CA 93012 USA

Tel: (805) 482-5200 Fax: (805) 482-5252

Email: [pet@photoemission.com](mailto:pet@photoemission.com)

## REFERENCE CELL MODEL # 60623

### GENERAL INFORMATION

The Solar Reference cell from PET is designed for calibrating the irradiance of the solar simulators used for testing solar cells or panels. They can also be used (with supporting equipment) to measure the temporal stability and/or non-uniformity of the light beam of solar simulators.

### PRODUCT DESCRIPTION

- ❖ Solar Reference Cell consists of a 20mm x 20mm Monocrystalline Silicon Photovoltaic Cell
- ❖ Encased in a rugged metal enclosure
- ❖ Protective Quartz Window
- ❖ Embedded Temperature Sensor (100  $\Omega$  Platinum Resistance Temperature Detector)
- ❖ Certificate of calibration
- ❖ Certified parameters:  $I_{sc}$ ,  $I_{max}$ ,  $V_{oc}$ ,  $V_{max}$ ,  $P_{max}$ , Area, Fill Factor (FF) and Efficiency.
- ❖ Certification is traceable to National Renewable Energy Laboratory (NREL).
- ❖ Compatible set of connecting cables with four 4-point measurements of both current and temperature.
- ❖ **Window Material:**
  - Quartz (other window material optional)
- ❖ **Temperature Sensor:**
  - 100  $\Omega$  Pt. RTD (Type K thermocouple optional)
- ❖ **Connectors (Current & Temperature)**
  - LEMO ERA.0S.304.CLT
- ❖ **Cable Set:**
  - Compatible with LEMO Plug
  - Banana Plugs on the other end of cables
  - 4-point measurements

### PRODUCT SPECIFICATIONS

- ❖ **Photovoltaic Material**
  - Monocrystalline Silicon
- ❖ **Photovoltaic Device Dimensions:**
  - 20mm x 20mm
- ❖ **Calibration Irradiance:**
  - 1000 W/m<sup>2</sup> (1 Sun)
- ❖ **Operating Current:**
  - Less than 175mA
- ❖ **Operating Temperature:**
  - 10°C to 30°C
- ❖ **Enclosure Material:**
  - Anodized Aluminum
- ❖ **Enclosure Dimensions:**
  - 89mm x 70mm x 19mm
- ❖ **Mounting Hole Pattern:**
  - 62mm x 62mm, Compatible with WPVS reference cell guidelines

### OPTIONS

- ❖ Customer specified window material
- ❖ Custom cells incorporating special cells from customer, thus assuring a much better match between reference cells and production cells. This also helps in minimizing spectral response mismatch or errors
- ❖ Type K Thermo-couple temperature sensor
- ❖ Cable termination (open end) of customer's choice
- ❖ Different size solar cell or aperture placed over solar cell