

Specification for ZTJ Solar Cell Secondary Working Standard

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Revision Record

Revision No.	Date	Sections Affected	Description of Change
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1.0 Introduction

This specification defines the requirements for the Emcore triple junction ZTJ Secondary Working Standard (SWS) to be provided by NASA to ESA for use performance qualification activities for the ESM solar array wings. The requirements herein are excerpted from the Astrium specification MPCV-RIBRE-SPE-0041.

2.0 Applicable and Reference Documents

Applicable Documents

Emcore ZTJ SWS Drawing	ZTJ CIC SWS layout
Emcore Document No. 12WI339	CIC Packaging, Shipping, Handling and Storage Procedure
Emcore Document No. 12I010	Calibration Procedure for Secondary Working Standards
NASA Doc. No. MPCV-ESM-CIC-001, Rev. 1, 8/6/2013	Specification for MPCV Solar Cells

3.0 Technical and Performance Requirements

- a. Full-stack SWS
 1. Complete, calibrated ZTJ CIC per MPCV-ESM-CIC-001 with addition of positive end-termination welded to backside of cell.
- b. Single junction SWS
 1. Calibrated top junction InGaP subcell
 2. Calibrated middle junction InGaAs subcell
 3. Calibrated bottom junction Ge subcell
- c. The SWSs shall be calibrated per Emcore Document number 12I010.

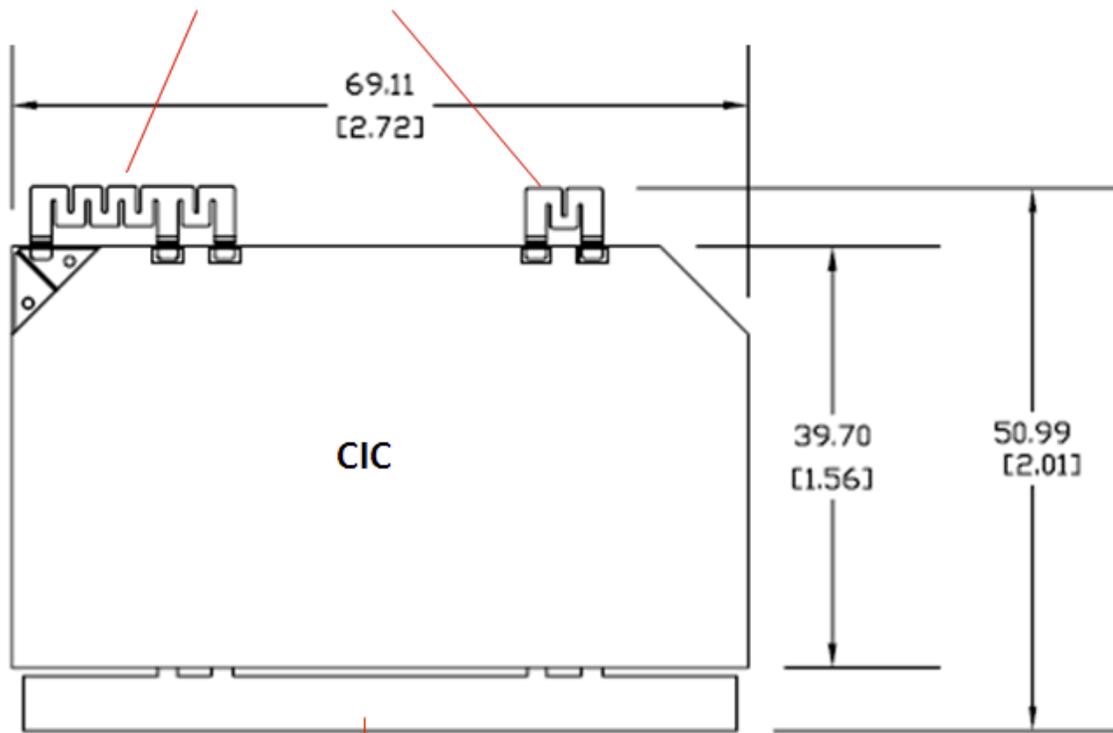
4.0 Product Assurance and Shipping

- a. Each SWS shall be calibrated per Emcore document 12I010.
- b. The following documentation shall be delivered with the SWSs:
 - a. Certificate of Conformance against this specification
 - b. Primary Standard Report
 - c. SWS Description and Calibration Report
- c. The SWSs shall be packaged and shipped to the specified destination in accordance with Emcore document 12WI339.

5.0 Drawings

The Emcore SWS Drawing is attached.

3-Toe & 2-Toe Negative Interconnects



Positive End-Termination
(Ag-Plated Kovar) Welded to
the Backside of the Cell