

MODULE DEVELOPMENT AND ENGINEERING SCIENCES

N86 - 29408

DENDRITIC WEB-TYPE SOLAR CELL MINI-MODULES

WESTINGHOUSE ELECTRIC CORP.

R. B. Campbell

Contract Requirements

- PROVIDE TWENTY-FIVE (25) MINI-MODULES COMPOSED OF DENDRITIC WEB SOLAR CELLS
- NOMINAL GLASS SIZE - 12 CM X 40 CM
- MODULES TO BE IDENTICAL WITH RESPECT TO DESIGN, MATERIALS, AND MANUFACTURING AND ASSEMBLY PROCESSES TO FULL SCALE MODULES
- MODULES TO BE ELECTRICALLY FUNCTIONAL

Contract Purpose

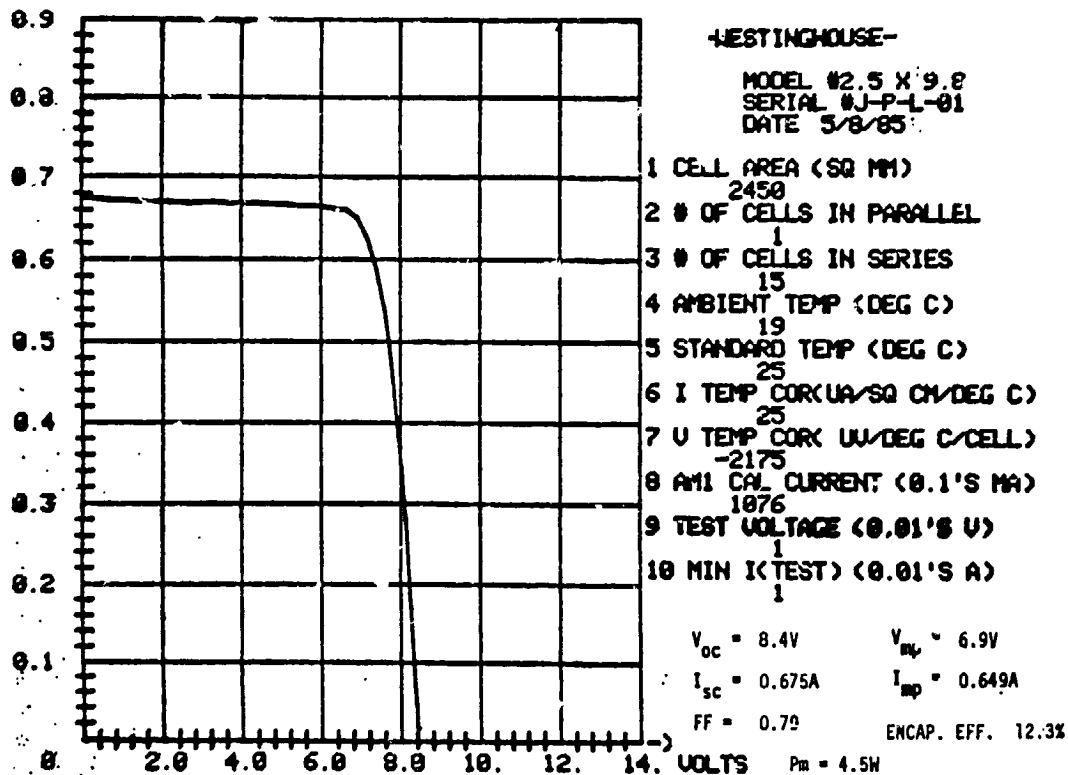
- TO PROVIDE TEST VEHICLE FOR ENVIRONMENTAL TESTING
- TO ASSESS RELIABILITY OF PROCESS AND DESIGN

Module Design

- 15 CELLS, EACH 2.5 CM X 9.8 CM; SERIES CONNECTED
- GLASS SIZE - 11.8 CM X 40.8 CM
- MODULE LAYUP: LOW IRON TEMPERED GLASS (1/8" THICK)
CRANE GLASS
EVA
SOLAR CELLS
CRANE GLASS
EVA
TEDLAR (WHITE - 0.002" THICK)
- AMP "SOLARLOK" CONNECTORS



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Module Performance

- ELECTRICAL OUTPUT - 4.6 WATTS/MODULE (w_p AT 25°C, AM-1, 100 MW/CM²)
- ENCAPSULATED EFFICIENCY - 12.3%

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