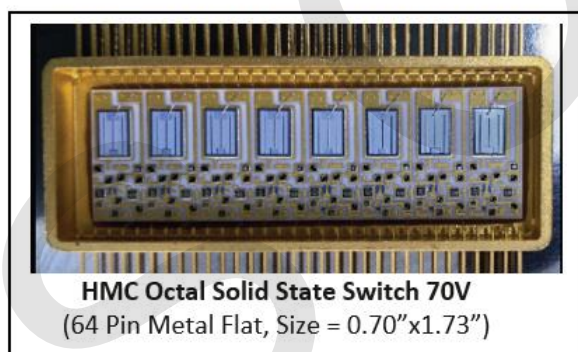


Octal Solid State Switch HMC

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed Octal Solid State Switch HMC to meet Electrical performance with High Reliability requirements for Space Application with minimum size and weight.



Salient Features

- ❖ Eight isolated P-Channel MOSFET based Solid State Switches for Heater switching applications.
- ❖ Each switch can handle maximum of 50W load and HMC totally can be used for up to 275W of heater load.
- ❖ HMC can be used for Pulse switching also.
- ❖ Paralleling capability of switches for the increased heater load.
- ❖ Meets Electrical performance with High Reliability requirements for Space Application.
- ❖ Meeting derating requirement as per ISRO standard.
- ❖ All discrete semiconductor devices (in unencapsulated die form) used are compliant to JANKC (Class-K) as per MIL-PRF-19500.
- ❖ Hybrid design and fabrication processes comply to ISRO-PAS-206 guidelines.

- ❖ Thick film process technology adopted for realisation of the HMC.
- ❖ Housed in a 64 pin metal flat package with 50mil pin pitch.

Major Specifications

- ❖ Raw bus Voltage V_{RB} : 26-42V / 42V-72V.
- ❖ Input drive using +5V.
- ❖ Output Voltage: $V_{RB} - 0.5V$ @ Full load.
- ❖ Isolated eight switches with individual switch can handle up to 50W of heater load (Typical 42V-1.1A or 70V-0.7A).
- ❖ HMC can be used for up to 275W of heater load.
- ❖ Switching function by P-Channel Rad Hard MOSFET up to 100kRad.
- ❖ Meet EMI requirement of ISRO Standards (based on MIL-461C).
- ❖ Operating Temperature Range: -55°C to 125°C.
- ❖ Hermetically sealed 64 Pin KOVAR Flat Package with Au plating meeting the leak rate of 5×10^{-8} atm-cc/sec of He.
- ❖ Package Size: 0.705"x1.730"x0.210"
- ❖ Weight: <14 gm.

Technology Transfer

URSC-ISRO offers to transfer technology of Octal Solid State Switch HMC developed by URSC to industries in India with adequate experience and facilities. Industries interested in obtaining knowhow may write giving details of their present activities, infrastructure and facilities.

Technology Transfer & Industry Coordination Division (TTID),
Programme Planning and Evaluation Group (PPEG),

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🌐 <https://www.ursc.gov.in/industry/index.jsp>