

## Battery Discharge Regulator

U R Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) has developed a Battery Discharge Regulator to maintain the bus regulation during eclipse and peak power requirement periods to avoid the off-optimal operation of the solar array and consequent over sizing of battery. BDR is a Boost Regulator, which regulates the bus voltage in-spite of the variations in the battery voltage. This results in 3 to 4% improvement in the overall efficiency of the user DC-DC and TWTA converters. BDR is modular in nature and can be scaled according to the load requirement.



Battery Discharge Regulator

### Salient Features

- ✦ Average Current Mode programming for load current sharing.
- ✦ Alternate path for fuse blow current and turn on inrush currents.
- ✦ Current transformer sense for implementing OCP.
- ✦ MVL based inclusion/exclusion.
- ✦ Protection Circuits:
  - Pulse by pulse type output over current limit protection.
  - Over voltage limit protection for Output over Voltage.

## Major Specifications

- ✦ Input Voltage (V) : 45 to 67V
- ✦ Output Voltage (V) :  $69.5 \pm 0.5$
- ✦ Output Power (W) : 1000W
- ✦ Topology : Non Isolated Boost
- ✦ Efficiency (%) : >94%
- ✦ OVP Limit (V) : 77V (110%)
- ✦ Current Limit (%) : 120 % of Full (100%) Load Current
- ✦ Telemetry
  - Analog : Output Voltage, Output Current
  - Digital : Ovp Relay & On/Off Relay Status
- ✦ Dimensions (L\*W\*H) : 86\*70\*212(mm<sup>3</sup>)
- ✦ Package Mass : 2.5kg

## Technology Transfer

URSC/ISRO offers to transfer this technology of Battery Discharge Regulator 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.

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