micross
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TPSU Series
for GaN Based SSPA and SAR

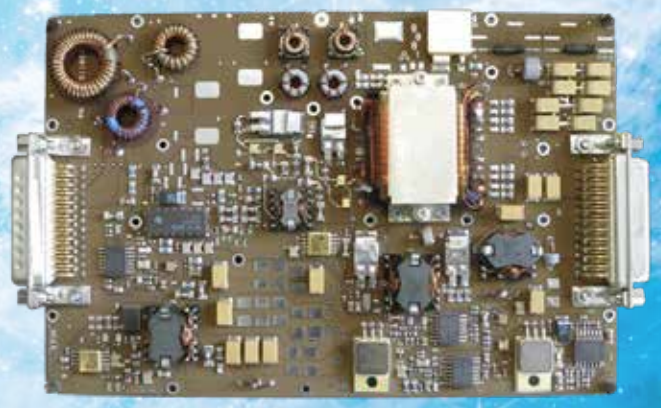
Product Brief

TAILORED TO SPECIFICATIONS

- Fully Cusomizable to Match Satellite Platform and Payload Requirements
- Two High Efficiency Main Output + Two Low Noise Auxiliary Outputs
- Onboard EMC Filters Ensures Compliance Without Additional Filtering
- Input to Output Power Efficiency of up to 92%

FEATURE-RICH

- User Adjustable Main Output Voltage
- Isolated Pulse ON/OFF Telecommand
- Telemetries: ON/OFF Status, Temperature, Input, Current, Output Voltage
- Output Sequencing During Turn ON/OFF
- Input Under Voltage Protection and Output Overload Protection



Micross' TPSU converter offers state of the art performance and is specifically designed for synthetic aperture radar applications. The TPSU provides excellent suppression of pulsed load current from output to input, and can be tailored to the specific spacecraft bus and equipment requirements.

RAD-HARD, ITAR FREE
100 kRad and 60 MeV

Design Expertise

Micross' design team helps review and specify payload specifics DC-DC converters to ensure maximum compatability and minimum risk at equipment level. We design, develop, manufacture and test complete DC-DC solutions for effortless payload integration.

Design Flexibility

The TPSU converters can be tailored to most satellite platforms and the outputs can be configured to customer specific payload requirements.

V1 (Main 1):	+30V to +60V	8A or 350W
V2 (Main 2):	+5V to +30V	3.5A or 50W
V3 (Aux 1):	+5V to +15V	1A or 8W
V4 (Aux 2):	-5V to -15V	1A or 5W

Rapid Delivery for Tailored Designs:

- 6 Months for Engineering Models
- 9 Months for CDR Datapackage
- 12 Months for Flight Units

Mechanical:

- PCB Outline: 180mm x 120mm x 25mm excl. connectors
- Mass: <550g

Electrical Performance

- WC EOL Output Voltage Accuracy: ± 2% including Line and Load
- Load Step Transient Response: ± 5% for a 50% to 100% Load Step

Output CE:

- V1 and V2: < 10.0mVrms (50Hz to 50MHz)
- V3 and V4: <1.0mVrms (50Hz to 50MHz)

CS Rejection Input to Outputs:

- V1 and V2: > 40dB
- V3 and V4: > 85dB

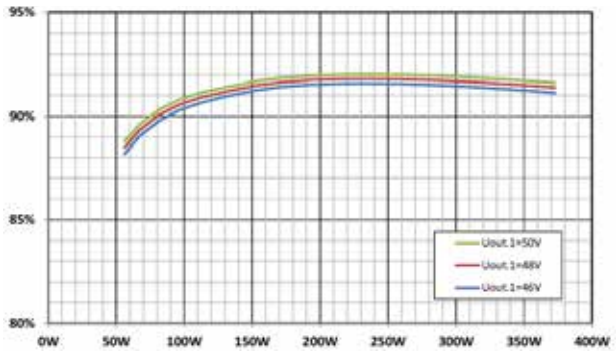
Design Datapackage

- Worst Case Analysis
- Radiation Analysis
- Part Stress Analysis
- Reliability Assessment
- Thermal Analysis
- FMECA
- Mechanical Analysis
- Declared Components List
- Declared Process List
- Declared Materials List

Product Control Documentation

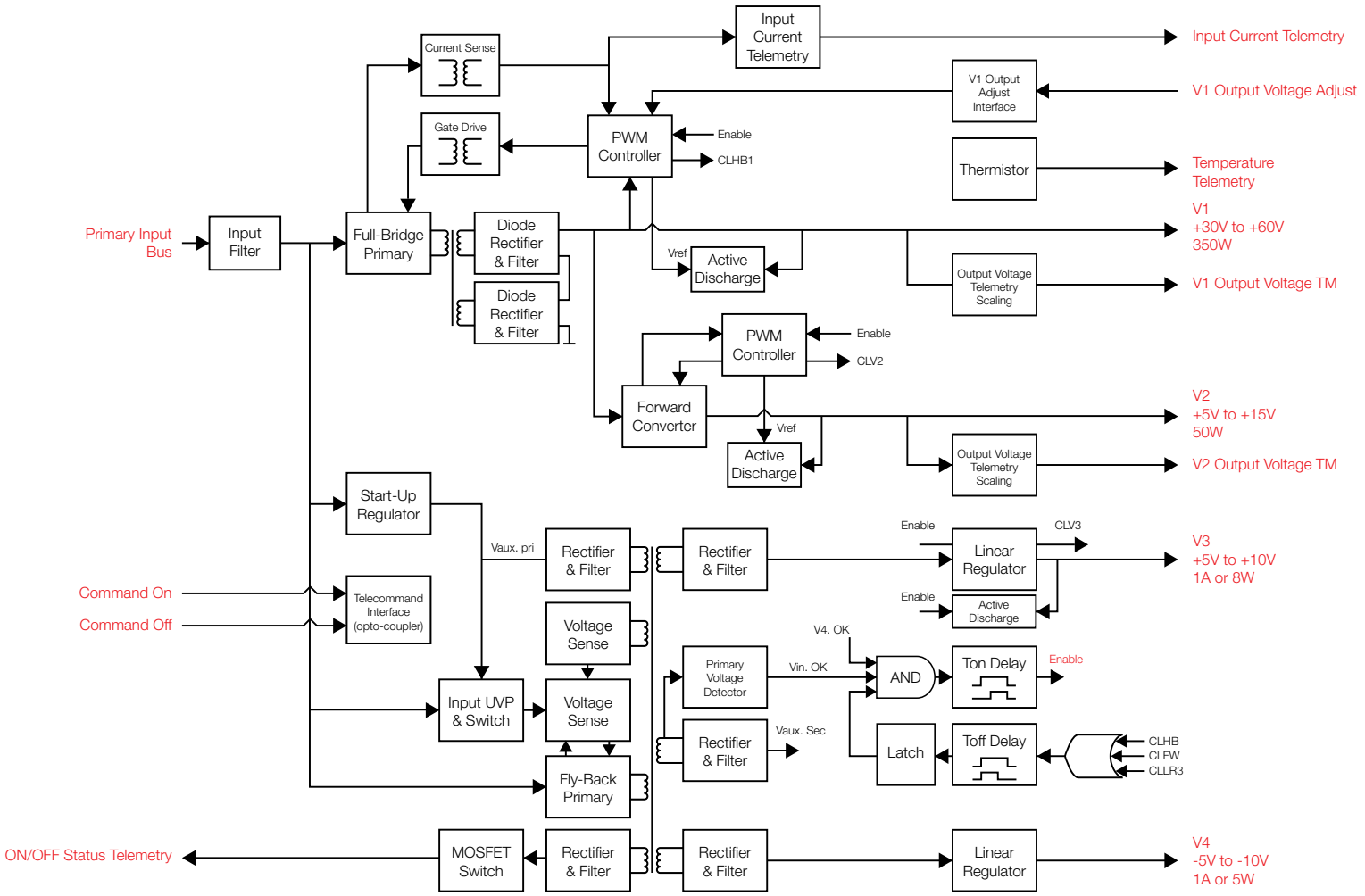
- Interface Schematics
- Interface Control Drawing
- User's Manual
- Test Plan
- Acceptance Test Procedure
- EMC Test Procedure and Report
- EIDP (One for Each Deliverable Item)
- Micross Standard Product Assurance Plan
- Compliance Statement for Specification
- Configuration Status List
- SET and Loop Stability Test Reports

Typical Efficiency



All 4 Outputs Loaded Equal Relative to Max Load

TPSU Series
Generic Block Schematic



Flight Qualified and Export Approved Configurations					
Part Number	Input Voltage	V1	V2	V3	V4
12190	98V - 101V	+50.0V / 6.50A	+6.0V / 6.50A	+9.0V/0.60A	-9.0V / 0.40A
12200	40V - 66V	+50.0V / 2.40A	+6.0V / 3.00A	+9.0V/0.60A	-9.0V / 0.40A

ECCN: 9A515.y.1

About Micross

Micross is the most complete provider of advanced microelectronic services and component, die and wafer solutions. With the broadest authorized access to die & wafer suppliers, an extensive portfolio of hi-rel power, RF, optoelectronics, memory, data bus, logic, and SMD/5962 qualified products, and the most comprehensive advanced packaging, assembly, modification, upscreening, and test capabilities, Micross is uniquely positioned to provide unparalleled high-reliability solutions, from bare die, to fully packaged devices including hermetic ICs/MCMs, PEMs, ASICs, FPGAs, and PCBs, to complete program life-cycle sustainment. For more than 45 years, Micross has been a trusted source for the aerospace, defense, space, medical, energy, communications, and industrial markets.

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