



MB



MBH

Micross MB & MBH Series DC/DC converters offer state of the art performance for noise sensitive, medium power RF applications. The DC/DC converter provide three low noise output rails with one main output and two auxilliary outputs, as well as all features required to interface directly to both platform and payload.

**RAD-HARD, ITAR FREE**  
**100 kRad and 60 MeV**

## FEATURES

### Electrical Performance

- Three Output EPC for RF Applications
- Total Output Power of 30W (MBH) and 15W (MB)
- Linear Regulators Ensure Low Output Noise
- Output Sequencing and Voltage Telemetry
- Input Current Telemetry and Under Voltage Protection
- WC EOL Output Voltage Accuracy:  $\pm 2\%$  incl. Line and Load
- Load Step Transient Response:  $\pm 5\%$  for a 50% to 100% Load Step

### Mechanical

MBH: 105mm x 68.5mm x 19mm <115g

MB: 152.4mm x 50.8mm x 19mm <140g

### Output CE:

V1: < 1mVrms (50Hz to 50MHz)

V2 & V3: < 0.5mVrms (50Hz to 50MHz)

### CS Rejection Input to Outputs:

V1: > 80dB

V2 & V3: > 90dB

### Output Configurations

The MB and MBH-series can be tailored to most satellite platforms and the outputs can be configured to customer specific payload requirements.

Output 1: +2.5V to +15V Max 3A / 25W

Output 2: +2.5V to +20V Max 1A / 6.5W

Output 3: -2.5V to -12V Max 1A / 6.5W

## BENEFITS

- Fully Customizable to Match Satellite Platform and Payload Requirements
- On-Board EMC Filters Ensures Compliance Without Additional Filtering
- The On-Board Low Noise Linear Regulators Eliminate the Need for Downstream Voltage Regulation
- Output Overload Protection on All Outputs
- Input to Output Power Efficiency of Up to 74%
- Design Data Package & Product Control Documentation Available

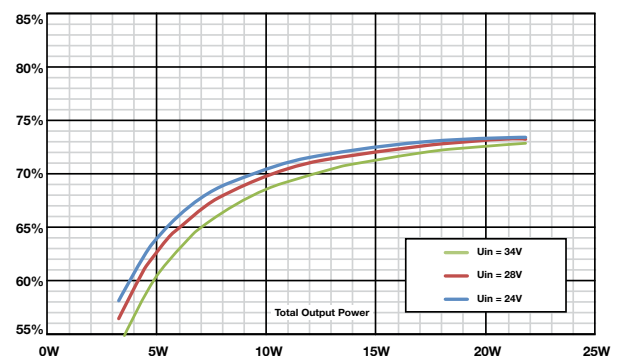
### Design Expertise

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

### Rapid Delivery for Tailored Designs:

- 6 Months for Engineering Models
- 9 Months for CDR Data Package
- 12 Months for Flight Units

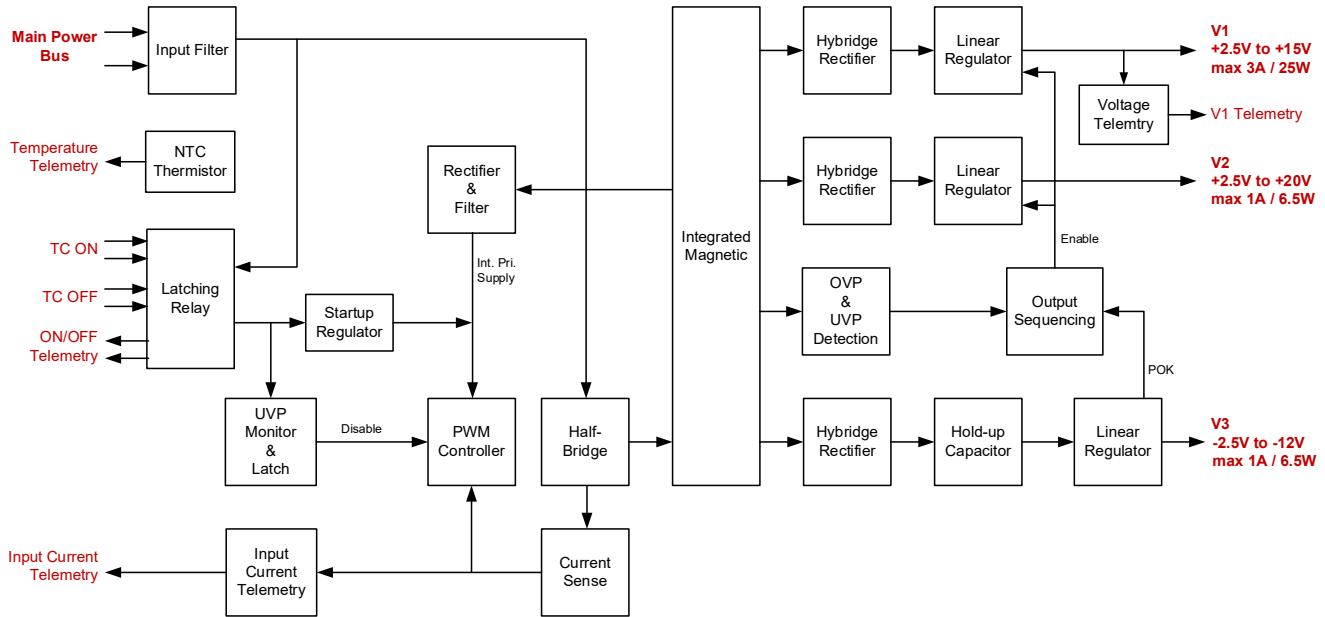
Typical Efficiency



Efficiency vs. Output Power, Parametric with Input Voltage

# MB & MBH Series

## GENERIC BLOCK SCHEMATIC



MB Series				
Flight Qualified and Export Approved Configurations				
Part #	Input Voltage	V1	V2	V3
10099	54.5V - 71V	5.0V / 0.70A	12.0V / 0.19A	-12.0V / 0.07A
10120	54.5V - 71V	5.0V / 0.75A	12.0V / 0.50A	-5.0V / 0.05A
10144	54.5V - 71V	6.0V / 0.83A	12.0V / 0.49A	
10160	97V - 103V	6.0V / 0.85A	12.0V / 0.43A	
10230	33V - 37V	6.0V / 0.82A	12.0V / 0.43A	
12003	33V - 38V	9.0V / 0.80A	12.0V / 0.25A	
12009	97V - 103V	9.0V / 1.0A	12.0V / 0.25A	
12018	33V - 38V	5.0V / 0.70A	12.0V / 0.25A	
12028	97V - 103V	8.0V / 0.70A	12.0V / 0.40A	-5.0V / 0.05A
12033	68V - 71V	5.0V / 0.75A		
12067	96V - 103V	15.0V / 0.22A	9.0V / 1.0A	-5.0V / 0.05A
12073	33V - 39V	6.0V / 1.5A	12.0V / 0.05A	-5.0V / 0.02A
12074	33V - 39V	8.0V / 0.80A	12.0V / 0.45A	-5.0V / 0.01A
12135	98V - 102V	6.0V / 1.0A	12.0V / 0.55A	-5.0V / 0.55A
12141	97V - 103V	12.0V / 0.60A	12.0V / 0.60A	
12149	97V - 103V	12.0V / 0.60A	12.0V / 0.60A	
12170	33V - 39V	12.0V / 0.60A	12.0V / 0.60A	-5.0V / 0.01A

MBH Series				
Flight Qualified and Export Approved Configurations				
Part #	Input Voltage	V1	V2	V3
10118	26.5V - 42.5V	5.2V / 2.7A	15.0V / 0.08A	-5.4V / 0.10A
10119	26.5V - 42.5V	5.2V / 2.4A	-5.4V / 0.70A	-
10137	26.5V - 42.5V	9.4V / 0.13A	15.0V / 0.33A	-
10227	45V - 55V	15.8V / 0.50A	5.2V / 0.75A	-15.8V / 0.05A
12000	21.5V - 34V	15.0V / 0.10A	-8.0V / 0.02A	6.5V / 1.60A
12020	33V - 37V	7.0V / 3.2A	-7.0V / 0.40A	
12052	21.5V - 34V	15.0V / 0.05A	-8.0V / 0.05A	6.5V / 2.40A
12096	45V - 51V	5.2V / 2.7A	15.0V / 0.08A	-5.4V / 0.10A
12111	98V - 101V	12.0V / 2.0A	6.0V / 0.65A	
12132	98V - 101V	8.0V / 2.0A	6.0V / 0.65A	-5.0V / 0.10A
12166	24V - 31.5V	12.0V / 1.3A	8.0V / 0.50A	
12167	24V - 31.5V	8.0V / 1.8A	12.0V / 0.60A	-6.0V / 0.25A
12182	98V - 101V	12.0V / 2.0A	6.0V / 0.65A	
12193	24V - 31.5V	6.0V / 0.60A	12.0V / 0.60A	

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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