

# MBU-2W SERIES

2W UNREGULATED

# DANUBE

## FEATURES

- SINGLE IN LINE PACKAGE
- UP TO 2W UNREGULATED OUTPUT POWER
- 100% BURNED IN
- HIGH EFFICIENCY
- INTERNAL SMD TECHNOLOGY
- LOW COST
- NO HEATSINK REQUIRED
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- 3 YEARS WARRANTY



OUTPUT SPECIFICATIONS		INPUT SPECIFICATIONS	
Voltage Setpoint Accuracy	+/-2% max	Input Voltage Range	+/-10% max
Temperature Coefficient	+/-0.05%/°C	Input Filter	Capacitor Typ
Ripple & Noise(20MHz BW) <sup>1</sup>	100mVp-p max	Protection	Fuse Recommended
Line Regulation <sup>2</sup>	+/-1.2% max		
Load Regulation <sup>3</sup>	+/-8% max		
Minimum Load	10% of Full Load		
Short Circuit Protection	Momentary		
Transient Response <sup>4</sup>	100uS max		
ENVIRONMENTAL SPECIFICATIONS		GENERAL SPECIFICATIONS	
Operating Temperature	-25 °C to +71 °C	Efficiency	72%-85%
Storage Temperature	-55 °C to +125 °C	Isolation Voltage <sup>5</sup>	1500VDC min
Humidity	95% max	Isolation Resistance	10 <sup>9</sup> ohms min
Cooling	Free-Air Convection	Isolation Capacitance	80pF max
		Switching Frequency	100KHz min
		MTBF <sup>6</sup>	>1,700,000 Hours
		Weight	2.0g Typ
		Case Material	Non-Conductive Plastic
		Case Size	14.0mm*7.5mm*10.14mm
		Conducted Emissions	EN55022 Class A
		Radiated Emissions	EN55022 Class A

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD, AND 25 °C UNLESS OTHERWISE NOTED.

<sup>1</sup> Measured with 1uF ceramic capacitor connects to the output pins.

<sup>2</sup> Line Regulation is for a 1.0% change in input Voltage.

<sup>3</sup> Load Regulation is for output load current change from 20% to 100%.

<sup>4</sup> 25% Step Load Change.

<sup>5</sup> For 10 seconds.

<sup>6</sup> MIL-HDBK-217F @25 °C, Ground Benign.

● **SELECTION GUIDE**  
**2W OUTPUT**

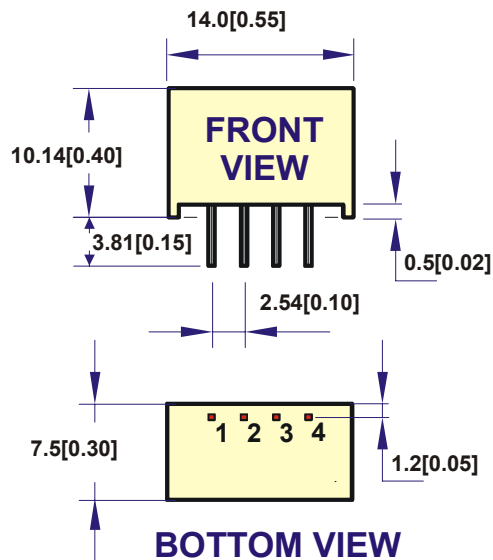
MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>7</sup> CURRENT(mA)		EFF (%) <sup>8</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
MBUS-0505-2W	5	5	400	520	55	77	1500
MBUS-0509-2W	5	9	222	506	40	79	1500
MBUS-0512-2W	5	12	167	500	40	80	1500
MBUS-0515-2W	5	15	133	488	40	82	1500
MBUS-1203.3-2W	12	3.3	400	152	15	72	1500
MBUS-1205-2W	12	5	400	214	15	78	1500
MBUS-1209-2W	12	9	222	214	15	78	1500
MBUS-1212-2W	12	12	167	207	15	81	1500
MBUS-1215-2W	12	15	133	196	15	85	1500
MBUS-2405-2W	24	5	400	107	15	78	1500
MBUS-2409-2W	24	9	222	107	10	78	1500
MBUS-2412-2W	24	12	167	103	10	81	1500
MBUS-2415-2W	24	15	133	108	14	77	1500

*Note: Other input to output voltages may be available. Please contact factory.*

<sup>7</sup> NOMINAL INPUT VOLTAGE.

<sup>8</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

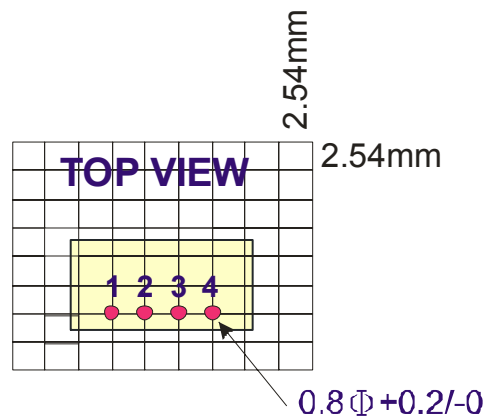
## MECHANICAL DIMENSIONS



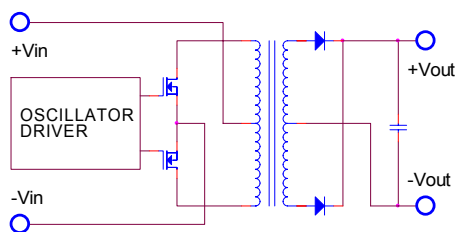
PIN	SINGLE
1	-Vin
2	+Vin
3	-Vout
4	+Vout

All dimensions are in mm[inches]

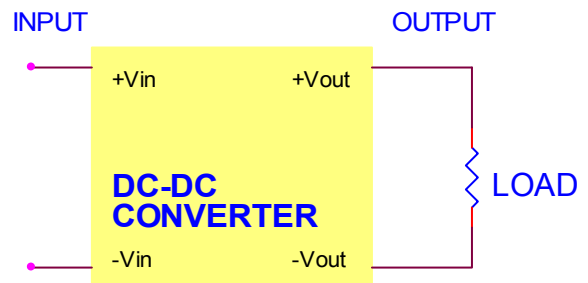
## RECOMMENDED FOOTPRINT DETAILS



## SIMPLIFIED SCHEMATIC



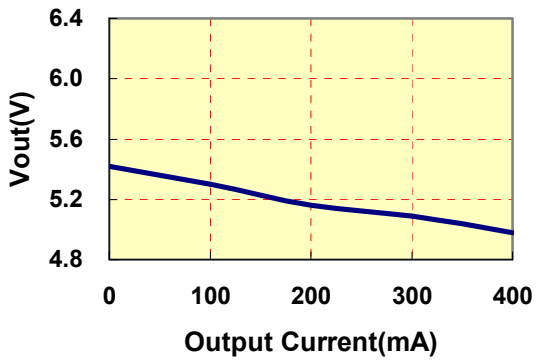
## TYPICAL APPLICATIONS



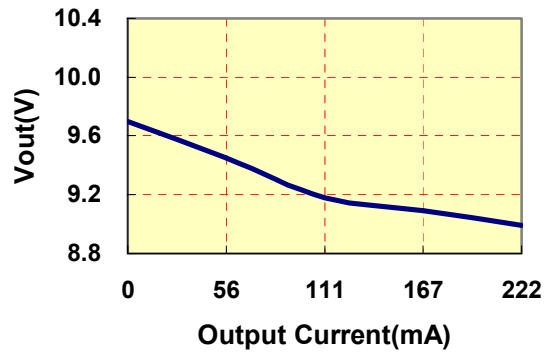
## ● TYPICAL PERFORMANCE CURVES

Specifications typical at TA=25°C, nominal input voltage, rated output current unless otherwise specified.

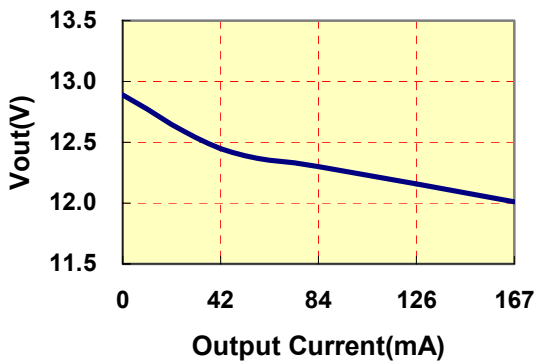
### VOUT VS LOAD(5Vout Models)



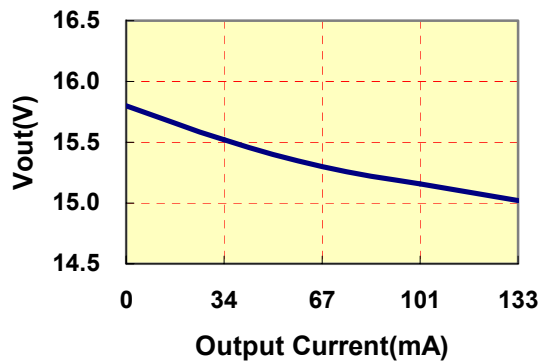
### VOUT VS LOAD(9Vout Models)



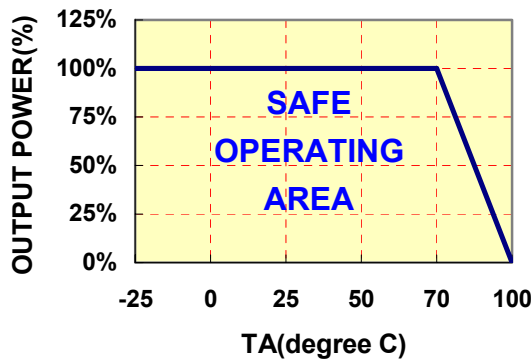
### VOUT VS LOAD(12Vout Models)



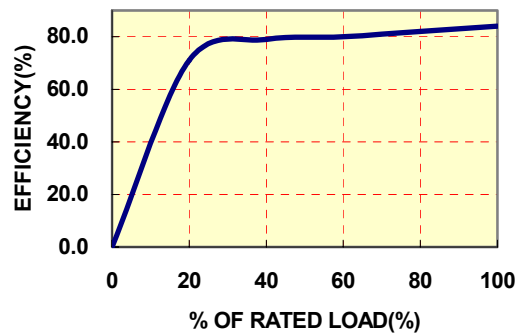
### VOUT VS LOAD(15Vout Models)



### DERATING CURVE



### EFFICIENCY VS LOAD



## ● INPUT FUSE SELECTION GUIDE

4.5-5.5V INPUT VOLTAGE(VDC)	10.8-13.2V INPUT VOLTAGE(VDC)	21.6-26.4V INPUT VOLTAGE(VDC)
800mA Slow-Blow Type	300mA Slow-Blow Type	170mA Slow-Blow Type

**Note:** Certain applications may require the installation of external fuse in front of the input.

### MBU-2W SERIES APPLICATION NOTES:

#### EXTERNAL CAPACITANCE REQUIREMENTS:

Output filtering is required for operation. A minimum of 10uF is needed. Output capacitance may be increased for additional filtering, not to exceed 220uF.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5ohm from DC to 250KHz is required.

We Can Offer EMC-Filter According To EN55011/22 Class B.

#### Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.

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### FOR MORE INFORMATION CALL:

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Home Page

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