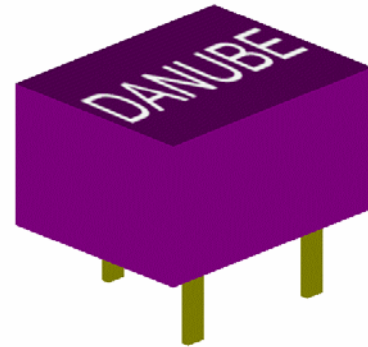


DC-DC Converter UNIT

MBU Series (1.25 W UNREGULATED DC-DC CONVERTER)

FEATURES

- 1000VDC ISOLATION
- EFFICIENCY UP TO 82%
- INTERNAL SMD TECHNOLOGY
- LOW COST
- NO HEATSINK REQUIRED
- UP TO 1.25W UNREGULATED OUTPUT POWER
- DUAL IN LINE PACKAGE
- 100% BURNED IN
- MTBF > 2,000,000 HOURS



● OUTPUT SPECIFICATIONS

| | |
|------------------------------|--------------|
| Voltage Setpoint Accuracy | +/-2% max |
| Temperature Coefficient | +/-0.03%/°C |
| Ripple & Noise (20MHz BW) | 100mVp-p max |
| Line Regulation ¹ | +/-1.2% max |
| Load Regulation ² | +/-8% max |
| Short Circuit Protection | Momentary |

● ENVIRONMENTAL SPECIFICATIONS

| | |
|-----------------------|---------------------|
| Operating Temperature | -25 °C to +85 °C |
| Storage Temperature | -55 °C to +125 °C |
| Cooling | Free-Air Convection |

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

● INPUT SPECIFICATIONS

| | |
|---------------------|----------------|
| Input Voltage Range | +/-10% max |
| Input Filter | Capacitor Type |

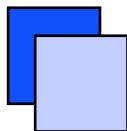
● GENERAL SPECIFICATIONS

| | |
|--------------------------------|--------------------------|
| Efficiency | 70%-82% |
| Isolation Voltage ³ | 1000 VDC min |
| Isolation Resistance | 10 ⁹ ohms min |
| Switching Frequency | 100 KHz min |
| Isolation Capacitance | 80pF max |
| MTBF | 2,000,000 Hours |
| Weight | 1.7g Typ |
| Case Material | Non-Conductive Plastic |
| Case Size | 12.7mm*10.16mm*7.62mm |

¹ Line Regulation is for a 1.0% change in input Voltage.

² Load Regulation is for output load current change from 20% to 100%.

³ For 10 seconds



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● SELECTION GUIDE 1.25W OUTPUT

| MODEL NUMBER | INPUT VOLTAGE (VDC) | OUTPUT VOLTAGE (VDC) | OUTPUT CURRENT (mA) | INPUT CURRENT(mA) | | EFF (%) | ISOLATION (VDC) |
|--------------|---------------------|----------------------|---------------------|-------------------|---------|---------|-----------------|
| | | | | FULL LOAD | NO LOAD | | |
| MBUS-0505 | 5 | 5 | 250 | 335 | 30 | 75 | 1000 |
| MBUS-0509 | 5 | 9 | 140 | 335 | 30 | 75 | 1000 |
| MBUS-0512 | 5 | 12 | 104 | 315 | 30 | 79 | 1000 |
| MBUS-0515 | 5 | 15 | 84 | 310 | 30 | 81 | 1000 |
| MBUS-1205 | 12 | 5 | 250 | 135 | 12 | 77 | 1000 |
| MBUS-1209 | 12 | 9 | 140 | 135 | 12 | 77 | 1000 |
| MBUS-1212 | 12 | 12 | 104 | 130 | 12 | 80 | 1000 |
| MBUS-1215 | 12 | 15 | 84 | 130 | 12 | 80 | 1000 |
| MBUS-2405 | 24 | 5 | 250 | 68 | 10 | 77 | 1000 |
| MBUS-2409 | 24 | 9 | 140 | 68 | 10 | 77 | 1000 |
| MBUS-2412 | 24 | 12 | 104 | 65 | 10 | 80 | 1000 |
| MBUS-2415 | 24 | 15 | 84 | 65 | 10 | 80 | 1000 |
| MBUS-4805 | 48 | 5 | 250 | 34 | 6 | 77 | 1000 |
| MBUS-4809 | 48 | 9 | 140 | 34 | 6 | 77 | 1000 |
| MBUS-4812 | 48 | 12 | 104 | 33 | 6 | 79 | 1000 |
| MBUS-4815 | 48 | 15 | 84 | 33 | 6 | 79 | 1000 |

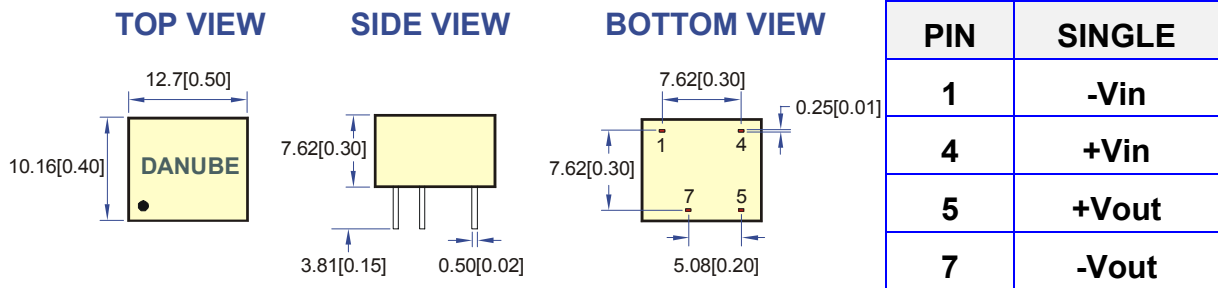
Note: Other input to output voltages may be available. Please contact factory.



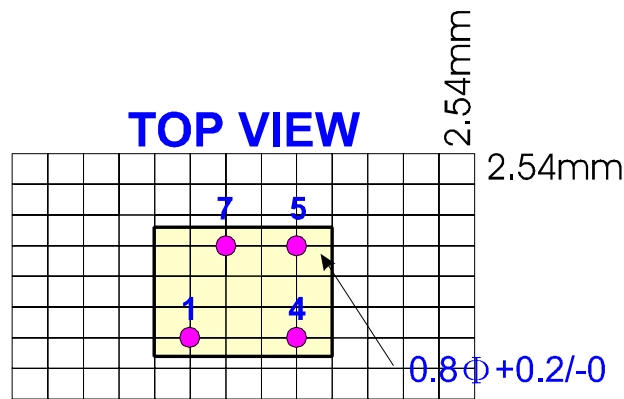
DC-DC Converter UNIT

MBU Series (1.25 W UNREGULATED DC-DC CONVERTER)

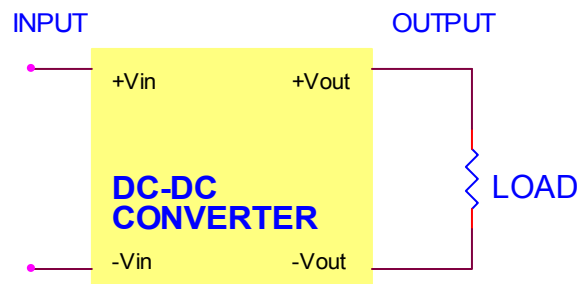
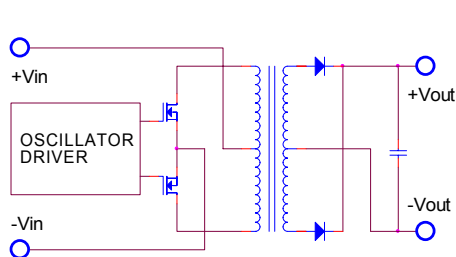
MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



All dimensions are in mm[inches]



SIMPLIFIED SCHEMATIC • TYPICAL APPLICATIONS





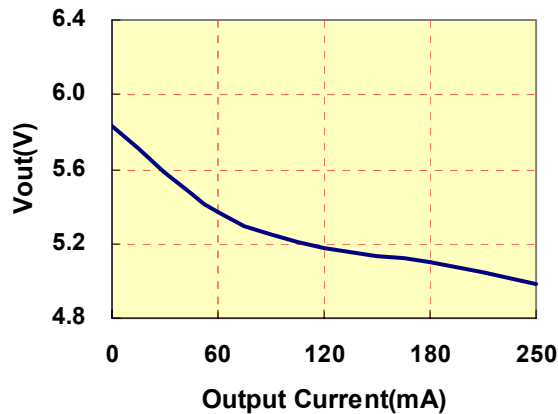
DC-DC Converter UNIT

MBU Series (1.25 W UNREGULATED DC-DC CONVERTER)

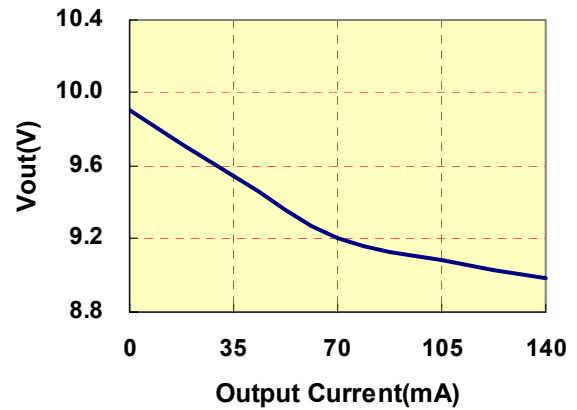
● TYPICAL PERFORMANCE CUREVES

Specifications typical at $t_a=25^{\circ}\text{C}$, nominal input voltage , rated output current unless otherwise specified.

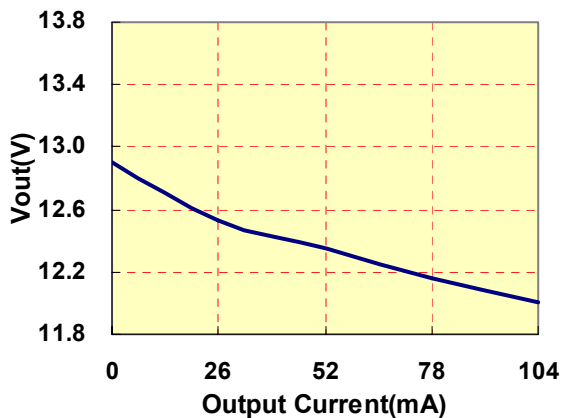
VOUT VS LOAD(5Vout Models)



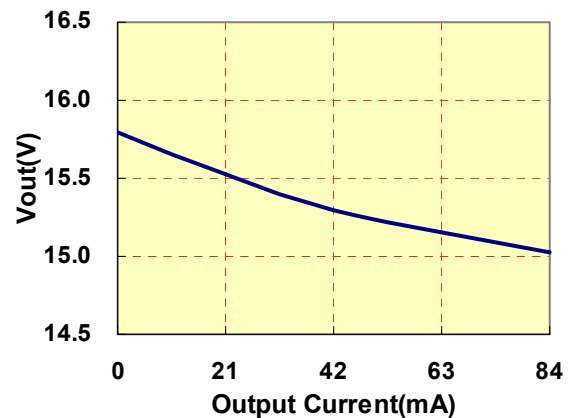
VOUT VS LOAD(9Vout Models)



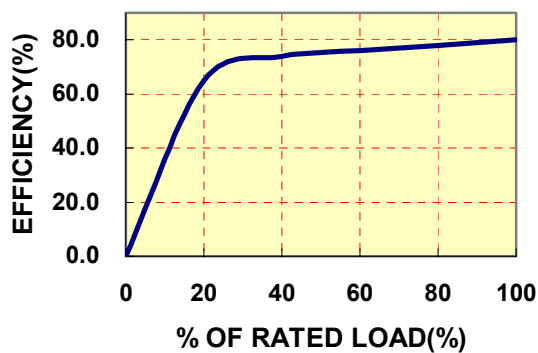
VOUT VS LOAD(12Vout Models)



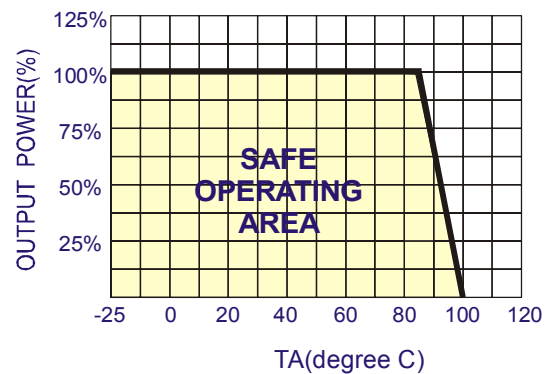
VOUT VS LOAD(15Vout Models)

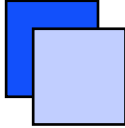


EFFICIENCY VS LOAD



DERATING CURVE





DC-DC Converter UNIT

MBU Series (1.25 W UNREGULATED DC-DC CONVERTER)

MBU 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 0.5 ohm from DC to 250KHz is required.

Negative Outputs:

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

FOR MORE INFORMATION CALL:

Power Systems – The Power Solution

Ilfeld-Auenstein (Germany) Dörnet 8 Tel: + 49 / 70 62 / 67 59 – 6 Fax: + 49 / 70 62 / 67 59 -80

E-mail: Info@Power-Systems.de Home Page: www.Power-Systems.de
