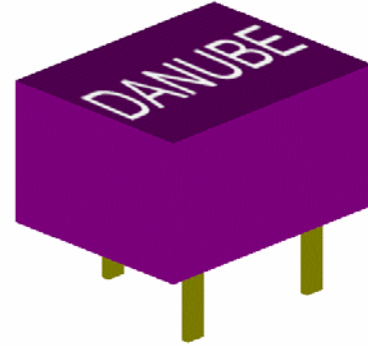


# DC-DC Converter UNIT

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 <sup>1</sup>	+/-1.2% max
Load Regulation <sup>2</sup>	+/-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

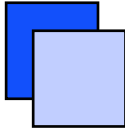
### ● GENERAL SPECIFICATIONS

Efficiency	70%-82%
Isolation Voltage <sup>3</sup>	1000 VDC min
Isolation Resistance	10 <sup>9</sup> 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

<sup>1</sup> Line Regulation is for a 1.0% change in input Voltage.

<sup>2</sup> Load Regulation is for output load current change from 20% to 100%.

<sup>3</sup> 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

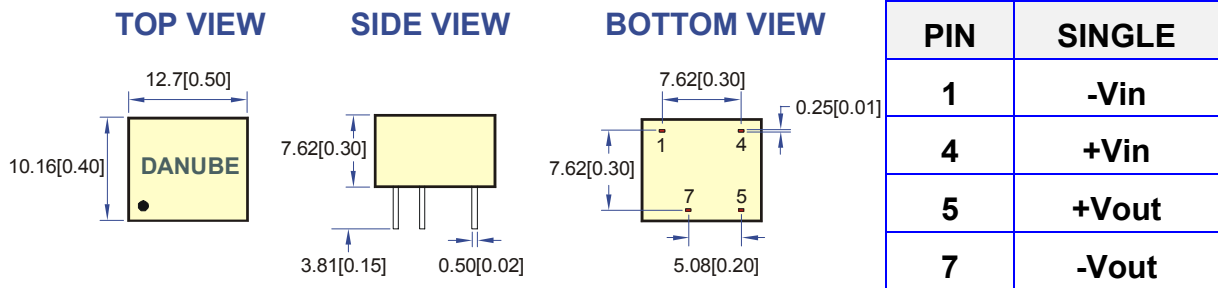
*Note: Other input to output voltages may be available. Please contact factory.*



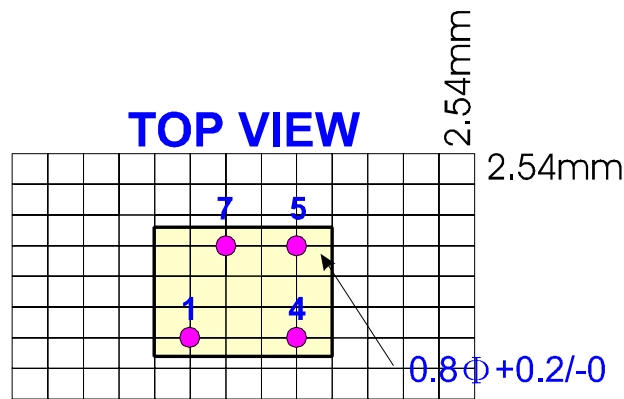
# DC-DC Converter UNIT

MBU Series ( 1.25 W UNREGULATED DC-DC CONVERTER )

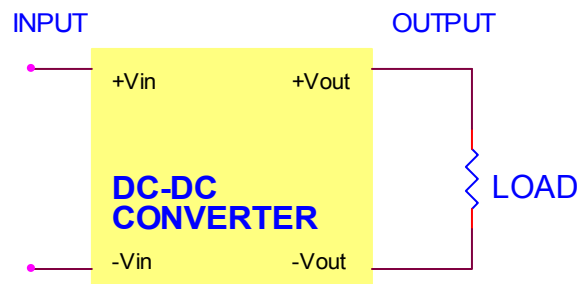
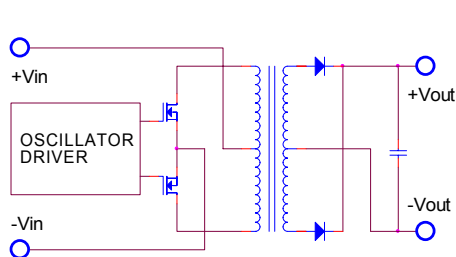
## MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



All dimensions are in mm[inches]



## SIMPLIFIED SCHEMATIC • TYPICAL APPLICATIONS





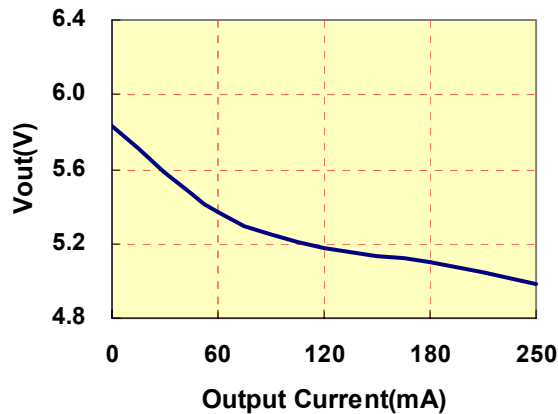
# DC-DC Converter UNIT

MBU Series ( 1.25 W UNREGULATED DC-DC CONVERTER )

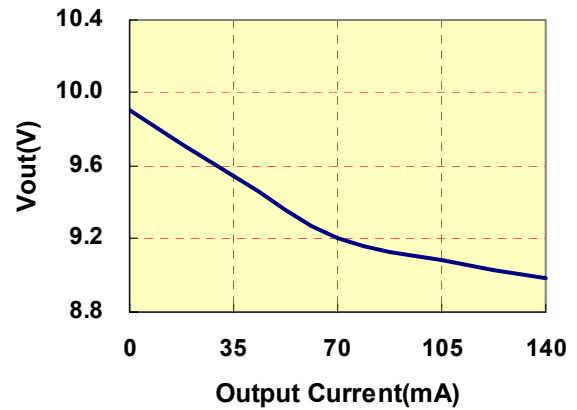
## TYPICAL PERFORMANCE CUREVES

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

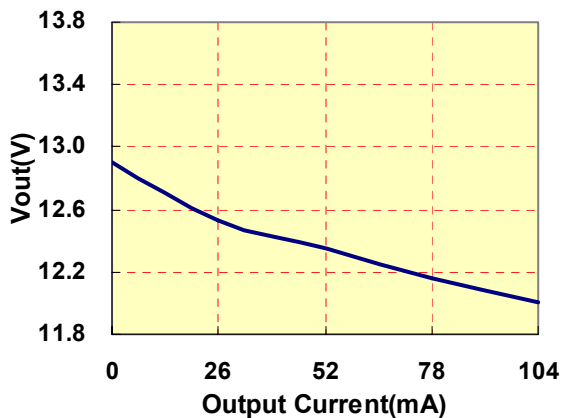
### VOUT VS LOAD(5Vout Models)



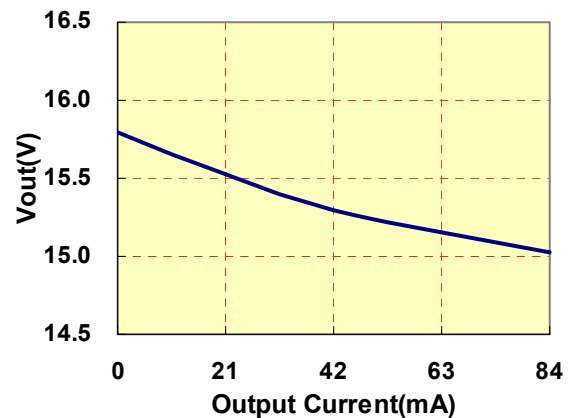
### VOUT VS LOAD(9Vout Models)



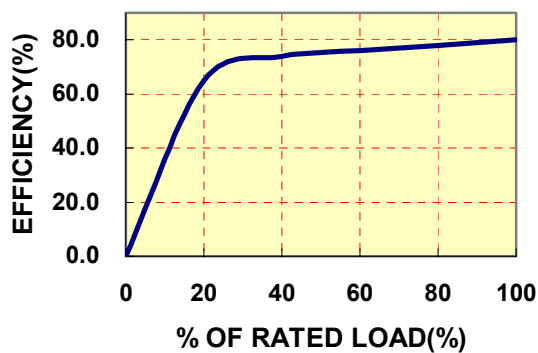
### VOUT VS LOAD(12Vout Models)



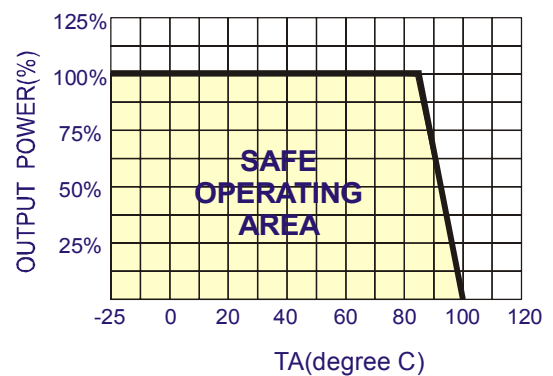
### VOUT VS LOAD(15Vout Models)

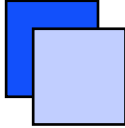


### EFFICIENCY VS LOAD



### DERATING CURVE





# DC-DC Converter UNIT

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MBU Series ( 1.25 W UNREGULATED DC-DC CONVERTER )

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## **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.*

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### **FOR MORE INFORMATION CALL:**

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