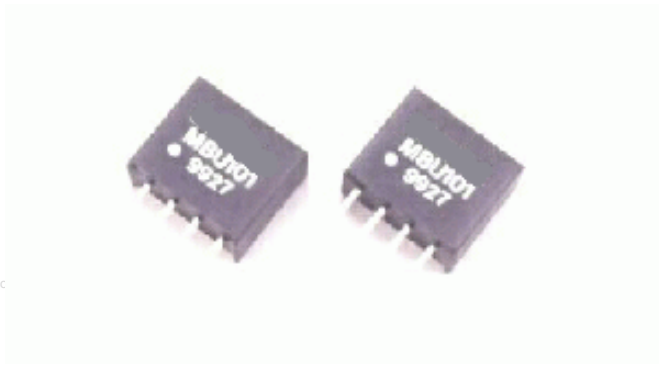
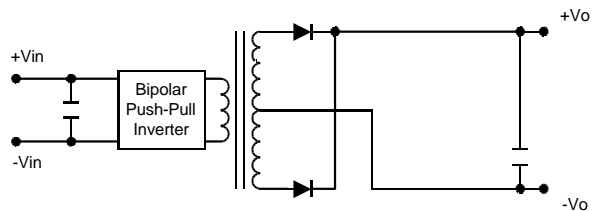


# TOTAL POWER INT'L

## MBU100 Series 1Watt Ultra Miniature High SIP DC/DC Converters Single Output

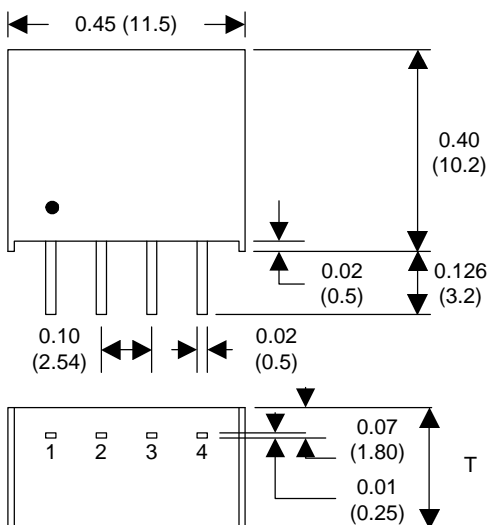
### Key Features

- SMT Technology
- Miniature Package
- I / O Isolation 1000VDC
- Efficiency Up To 80%
- MTBF > 2,000,000 Hours
- Low Cost



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### Mechanical Configuration



All dimensions typical in inches (mm). Tolerance= +/- 0.01 (+/- 0.25)

### Pin Connections

Pin	Function
1	-Input
2	+Input
3	-Output
4	+Output

### Physical Characteristics

<b>Case Size (5 &amp; 12V Input)</b>	11.5×6.1×10.2 mm 0.45×0.24×0.40 inches
<b>Case Size (24V Input)</b>	11.5×7.1×10.2 mm 0.45×0.28×0.40 inches
<b>Case Material</b>	Non-Conductive Black Plastic
<b>Weight</b>	1.3g( 5 & 12V Input ) 1.7g( 24V Input )

# TOTAL POWER INT'L

## MBU100

### Absolute Maximum Ratings

Exceeding these values can damage the module. These are not continuous operating ratings.

Parameter		Min.	Max.	Unit.
Input Surge Voltage ( 1000 mS )	5VDC Input Models	-0.7	9	VDC
	12VDC Input Models	-0.7	18	VDC
	24VDC Input Models	-0.7	30	VDC
Internal Power Dissipation		---	450	mW

### Environmental Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-25	---	+75	°C
Storage Temperature		-40	---	+125	°C
Humidity		---	---	95	%
Cooling	Free-Air Convection				

### Model Selection Guide

Model Number	Input voltage VDC	Output Voltage VDC	Output Current mA (Max.)	Output Current mA (Min.)	Input Current Max. Load mA (Typ.)	Input Current No Load mA (Typ.)	Load Regulation % (Max.)	Efficiency % (Typ.)
MBU101	5 (4.5 ~ 5.5)	5	200	4	290	30	11	69
MBU102		9	110	2	260		8	76
MBU103		12	84	1.5	262		7	77
MBU104		15	67	1	258		6	78
MBU111	12 (10.8 ~ 13.2)	5	200	4	117	13	9	71
MBU112		9	110	2	107		5	77
MBU113		12	84	1.5	106		5	79
MBU114		15	67	1	105		4	80
MBU115	24 (21.6 ~ 26.4)	5	200	4	60	7	8	70
MBU116		9	110	2	54		5	76
MBU117		12	84	1.5	53		4	79
MBU118		15	67	1	53		4	79

Specifications typical at Ta=+25] ,resistive load,nominal input voltage,rated output current unless otherwise noted.

### Input Specifications

Parameter	Model	Min.	Typ.	Max.	Unit
Input Voltage Range	5V Input Models	4.5	5	5.5	VDC
	12V Input Models	10.8	12	13.2	
	24V Input Models	21.6	24	26.4	
Reverse Polarity Input Current	All Models	---	---	0.3	A
Input Filter		Internal Capacitor			

# TOTAL POWER INT. MBU100

## Output Specifications

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		----	±1.0	±3.0	%
Line Regulation	For Vin Change 1%	----	±1.2	±1.5	%
Load Regulation	Io=20% to 100%	See Model Selection Guide			%
Ripple & Noise (20MHz)		----	100	150	mV P-P
Ripple & Noise (20MHz)	Over Line, Load & Temp.	----	----	200	mV P-P
Ripple & Noise (20MHz)		----	----	5	mV rms.
Over Load		120	----	----	%
Temperature Coefficient		----	±0.01	±0.02	%/°C
Output Short Circuit	0.5 Second Max.				

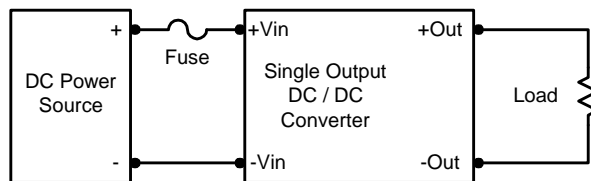
## General Specification

Parameter	Conditions	Min.	Typ.	Max.	Unit
Rated Isolation Voltage	60 Seconds	1000	----	----	VDC
Isolation Resistance	500VDC	1000	----	----	MΩ
Isolation Capacitance	100KHz, 1V	----	60	100	pF
Switching Frequency		50	90	110	kHz

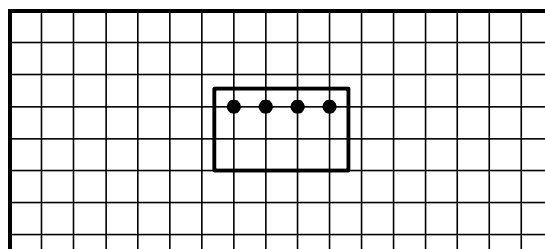
## Input Fuse Selection Guide

5V Input Models	12V Input Models	24V Input Models
500mA Slow – Blow Type	200mA Slow – Blow Type	100mA Slow – Blow Type

## Typical Applications



## Connecting Pin Patterns (2.54 mm / 0.1 inch grids )

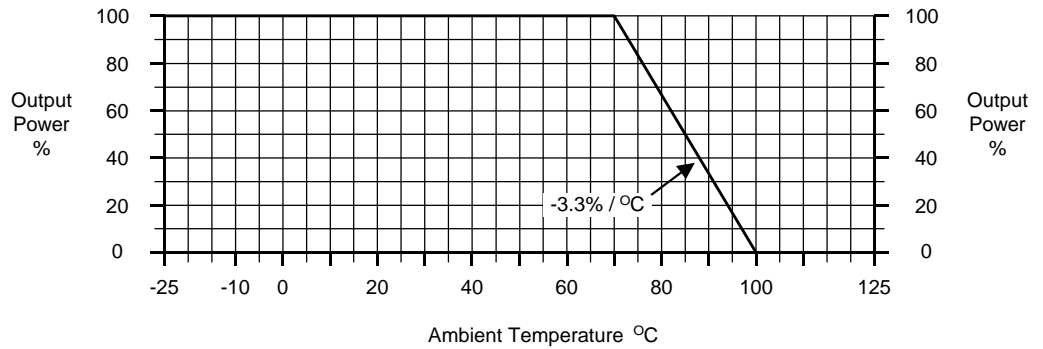


# TOTAL POWER INT'L

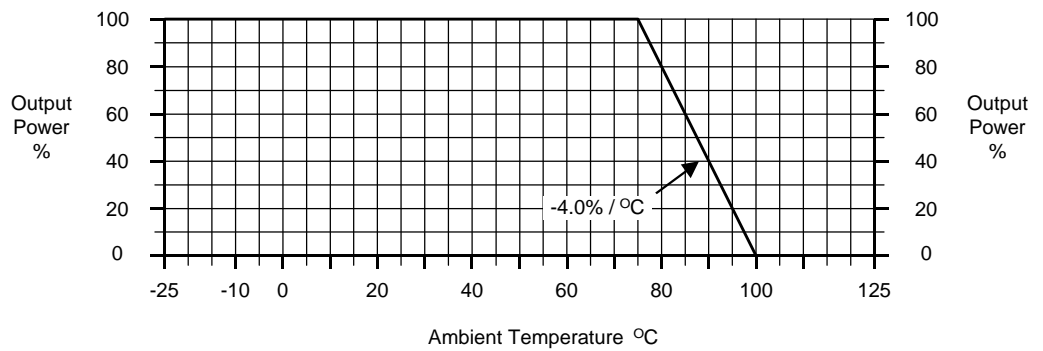
## MBU100

### Derating Curve

#### 5V Output Only



#### All Other Output



### NOTE:

1. Specifications typical at  $T_a = +25^\circ\text{C}$ , resistive load, nominal input voltage, rated output current unless otherwise noted.
2. Other input and output voltage may be available, Please contact factory.
3. Specifications subject to change without notice.