

LINEAR REGULATORS

REGULATED & NON ISOLATED



FEATURES

- Pin Out Compatible With LM78XX Linear Regulators
- Small and Low Profile 0.45 x 0.35 x 0.69inch
- High Efficiency: Up to 97%
- Low Standby Current
- Short Circuit Protection
- Over Temperature Protection
- Low Output Ripple Noise
- RoHS Compliant

DISCRIPTION

The PM-1000B Series is a high performance switching regulator provides 1A output current with ultra-high efficiency of up to 97%. This unit can also be used to convert a positive voltage into a negative voltage.

ELECTRICAL SPECIFICATIONS

All specifications are typical at nominal input, full load, and 25° C unless otherwise noted.

INPUT SPECIFICATIONS

Input Voltage Range	4.75 ~32VDC
Max Input Current	1A
Input Filter	C Filter
Input Reflected Ripple Current	100mA

OUTPUT SPECIFICATIONS

Output Current (see table)	1000mA Max
Voltage Accuracy	± 2%
Ripple and Noise, 20MHz BW	Typ: 25mVp-p Max: 35mVp-p
Line Regulation, Full Load	±0.2% Vo
Load Regulation (10% to 100% of FL)	±0.4%
Temperature Coefficient	±0.02%/°C max
Short Circuit Protection	Continuous, Auto Recovery
Cooling Method	Free Air Flow

GENERAL SPECIFICATIONS

Switching Frequency	280 – 450 KHz max
Isolation Voltage	None
Start-up Time	0.5mS
Thermal Impedance	85Ω
MTBF MIL-HDBK-217F@25°C	2000K hours

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40° C ~ +85° C (with derating)
Storage Temperature Range	-55° C to +125° C
Over Temperature Protection (Internal IC Junction)	150°C
Relative Humidity	5% to 95% RH

PHYSICAL SPECIFICATIONS

Case Material	Non-Conductive Black Plastic
Base Material	None
Potting Material	Silicon (UL94-V0)
Dimensions	0.45 x 0.35 x 0.69 Inches (11.5 x 9 x 17.5mm)
Weight	3.7g



PM-1000B Series

1000mA OUTPUT CURRENT

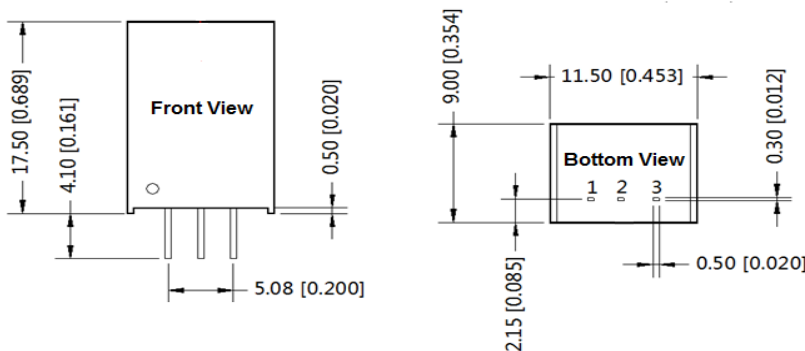
MODEL	INPUT VOLTAGE	NOMINAL INPUT	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY (%)	
				Max. Load	Min. Vin	Max. Vin
PM-1000B033	4.75 ~ 28VDC	24VDC	3.3VDC	1000mA	91	83
PM-1000B050	6.5 ~ 32VDC	24VDC	5VDC		93	88
PM-1000B065	9 ~ 32VDC	24VDC	6.5VDC		94	90
PM-1000B090	12 ~ 32VDC	24VDC	9VDC		95	92
PM-1000B120	16 ~ 32VDC	24VDC	12VDC		96	94
PM-1000B150	20 ~ 32VDC	24VDC	15VDC		97	94

Note

1. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment) MIL-HDBK-217F Notice2 @Ta=25 °C, Full load (Ground, Benign, controlled environment)
2. Typical value at nominal input and no load.
3. Typical value at minimum input or maximum input voltage and full load.
4. Tested with minimum input and constant resistive load.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

Dimensions:



Note:
 Unit :mm[inch]
 Pin diameter tolerances :±0.10[±0.004]
 General tolerances:±0.25[±0.010]

PIN CONNECTION	
PIN	DEFINE
1	+VIN
2	GND
3	+VOUT

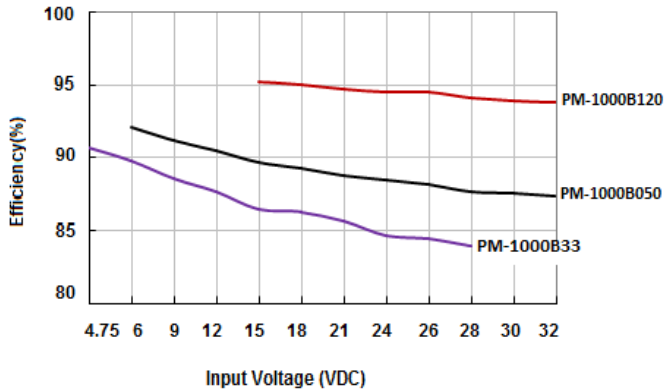
Kaga Electronics (USA) Inc. 2480 N. First St., Suite #100, San Jose, CA 95131
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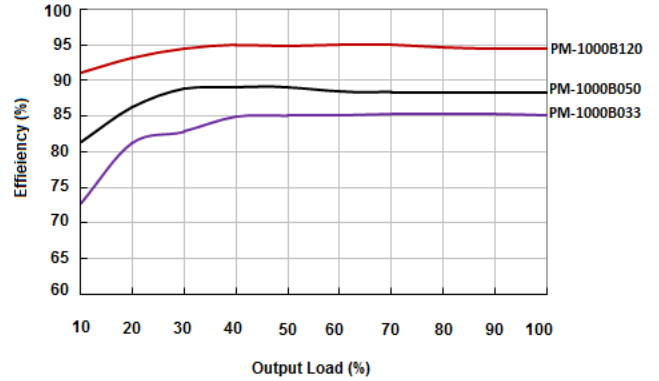
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1000mA OUTPUT CURRENT

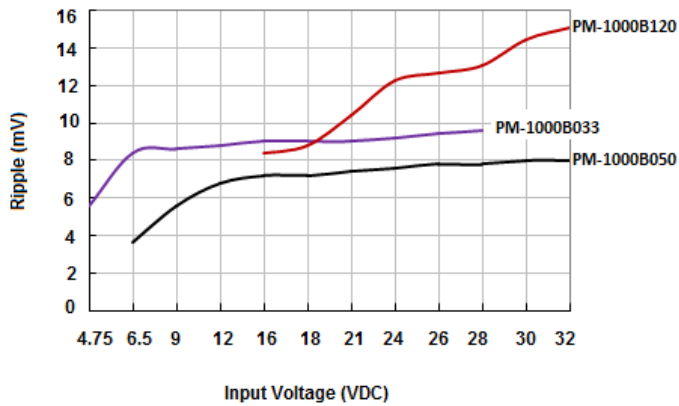
Efficiency VS Input Voltage



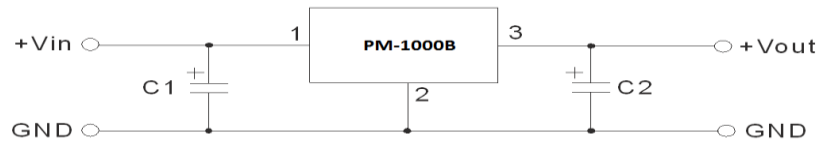
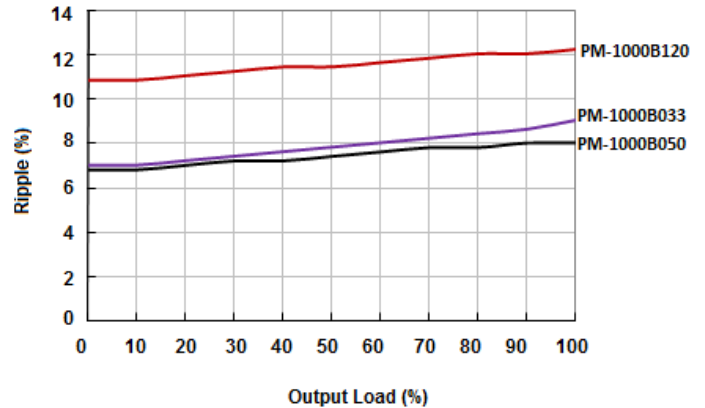
Efficiency VS Output Load



Ripple VS Voltage



Ripple VS Output



1. C1 and C2 are required and should be fitted close to the converter pins.
2. The capacitance of C1, C2 can be increased properly if required, and tantalum or low ESR electrolytic capacitors may also suffice.
3. The external capacitor table as below.

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