



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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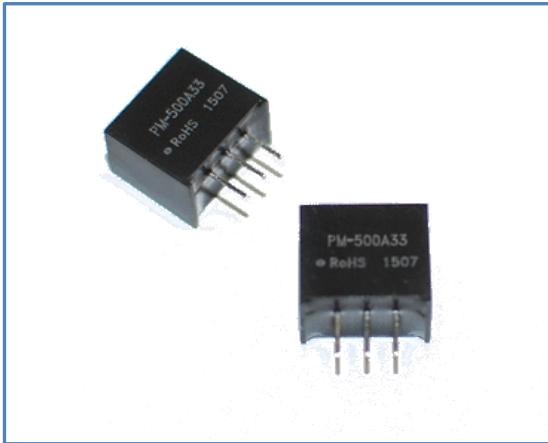


# PM-500A Series

500mA OUTPUT CURRENT

## LINEAR REGULATORS

REGULATED & NON ISOLATED



### OUTPUT SPECIFICATIONS

Output Current (see table)	500mA Max
Voltage Accuracy	± 2%
Ripple and Noise, 20MHz BW	Typ: 20mVp-p Max: 30mVp-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

### FEATURES

- Pin Out Compatible With LM78XX Linear Regulators
- Small and Low Profile 0.46 x 0.30 x 0.40inch
- High Efficiency: Up to 96%
- Low Standby Current
- Short Circuit Protection
- Over Temperature Protection
- Low Output Ripple Noise
- RoHS Compliant

### 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

### DISCRIPTION

The PM-500A Series is a high performance switching regulator provides 500mA output current with ultra-high efficiency of up to 96%. This unit can also be used to convert a positive voltage into a negative voltage.

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40° C - +85° C (with derating)
Storage Temperature Range	-55° C to +125° C
Over Temperature Protection (Internal IC Junction)	160°C
Relative Humidity	5% to 95% RH

### 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	500mA
Input Filter	C Filter
Input Reflected Ripple Current	100mA

### PHYSICAL SPECIFICATIONS

Case Material	Non-Conductive Black Plastic
Base Material	None
Potting Material	Silicon (UL94-V0)
Dimensions	0.476 x 0.30 x 0.40 Inches (11.6 x 7.55 x 10.16mm)
Weight	2.0g

Kaga Electronics (USA) Inc. 2480 N. First St., Suite #100, San Jose, CA 95131  
 Phone: (408) 570-0955 | Fax: (408) 570-0186 | Toll Free: (888) 2-VOLGEN (888-286-5436)  
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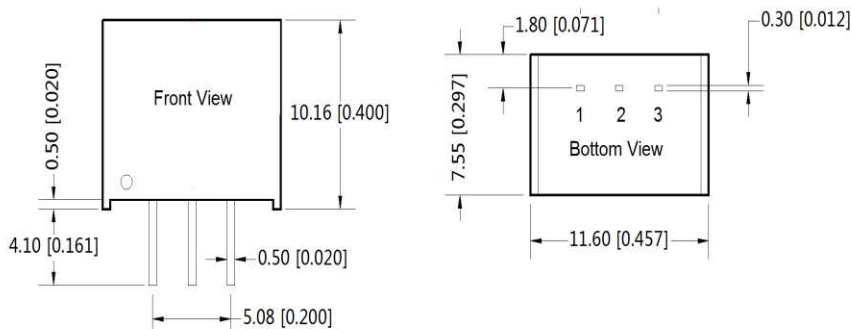
MODEL	INPUT VOLTAGE	NOMINAL INPUT	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY (%)	
				Max. Load	Min. Vin	Max. Vin
PM-500A33	4.75 ~ 28VDC	24VDC	3.3VDC	500mA	91	81
PM-500A50	6.5 ~ 32VDC	24VDC	5VDC		94	86
PM-500A65	8 ~ 32VDC	24VDC	6.5VDC		94	87
PM-500A90	11 ~ 32VDC	24VDC	9VDC		95	91
PM-500A120	15 ~ 32VDC	24VDC	12VDC		95	92
PM-500A150	18 ~ 32VDC	24VDC	15VDC		96	93

**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 section tolerances:±0.10[±0.004]  
 General tolerances:±0.25[±0.010]

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

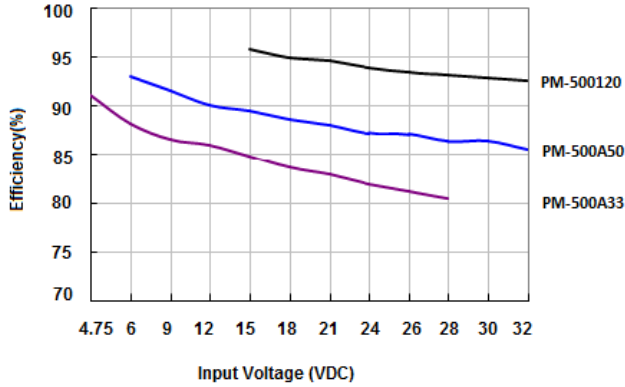
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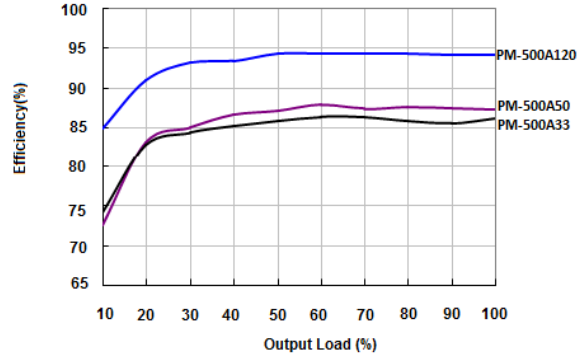
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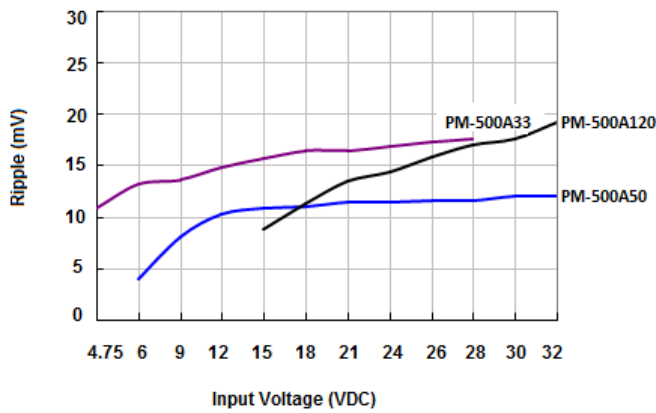
Efficiency VS Input Voltage



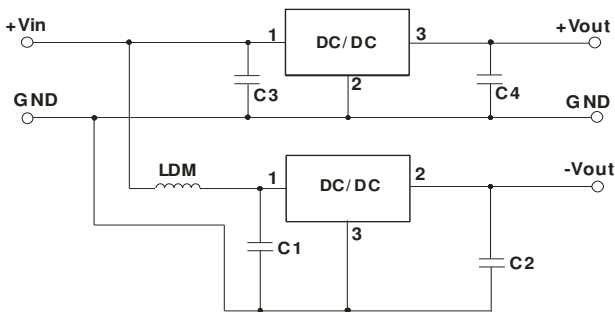
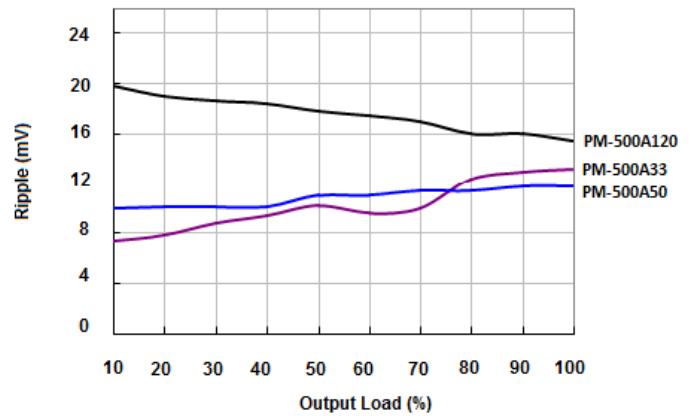
Efficiency VS Output Load



Ripple VS Voltage



Ripple VS Output



C1 and C2 are required and should be fitted close to the converter pins. Maximum capacitive load including C2 is 470uF.

C1	10uF / 50V	1210 X5R MLCC
C2	10uF / 25V	1206 X5R MLCC