



RoHS

K78XX-500 Series

**WIDE INPUT NON-ISOLATED & REGULATED
SINGLE POSITIVE/NEGATIVE OUTPUT**

FEATURES

- Efficiency up to 96%
- Temperature range: -40°C ~ +85°C
- No heat sink required
- Pin-out compatible with LM78XX linears
- Short circuit protection, Thermal shutdown
- Low ripple and noise
- SIP package
- Industry standard pinout
- MTBF>2,000,000 hours
- The K78xx-500 series converters can also be used to convert a positive voltage into a negative voltage.
- Only two extra capacitors are required.
- Input voltage range can be lower than the output voltage for higher output voltages

PRODUCT PROGRAM

Part Number	Input	Output		Efficiency (%)	
	Voltage Range (VDC)	Voltage (VDC)	Current (mA)	Vin (Min)	Vin (Max)
K7803-500	4.75-28	3.3	500	90	80
	4.75-25	-3.3	-400	73	78
K7805-500	6.5-32	5.0	500	93	84
	6.0-27	-5.0	-400	78	83
K78X6-500	8-32	6.5	500	94	87
	6.0-25	-6.5	-300	83	85
K7809-500	11-32	9.0	500	95	91
	7.0-23	-9.0	-200	87	86
K7812-500	15-32	12	500	95	92
	7.0-20	-12	-200	85	87
K7815-500	18-32	15	500	96	93
	7.0-17	-15	-200	84	89

APPLICATIONS

The K78xx-500 series high efficiency switching regulators are ideally suited to replace 78xx linear regulators and are pin compatible.

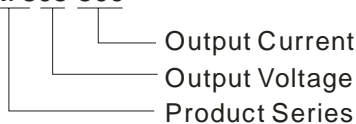
OUTPUT SPECIFICATIONS

Item	Test Conditions	Min.	Typ.	Max.	Units
Output voltage accuracy	100% full load		±2	±3	%
Line regulation	Vin= min. to max. at full load		±0.2	±0.4	
Load regulation	10% to 100% load		±0.4	±0.6	
Ripple + Noise*	20MHZ Bandwidth		25	35	mVp-p
Short circuit input power			0.5	1.8	W
Short circuit protection		Continuous, automatic recovery			
Switching frequency		280	330	450	kHz
Quiescent current	Positive output		5	8	mA
	Negative output		7	13	
Thermal shutdown	Internal IC junction		150		°C
Temperature coefficient	-40 °C to +85 °C ambient			0.02	%/°C
Max capacitance load				1000	µF

*Test ripple and noise by "parallel cable" method.

MODEL SELECTION

K7805-500



COMMON SPECIFICATIONS

Item	Test Conditions	Min.	Typ.	Max.	Units
Storage humidity range				95	%
Operating temp. range		-40		85	°C
Storage Temp. range		-55		125	
Operating case temp.				100	
Lead temperature	1.5mm from case for 10 seconds			300	
Cooling		Free Air Convection			
Case material		Plastic (UL94-V0)			
MTBF	+25 °C, MIL-HDBK-217F	2000			k hours
Package Weight			2.0		g

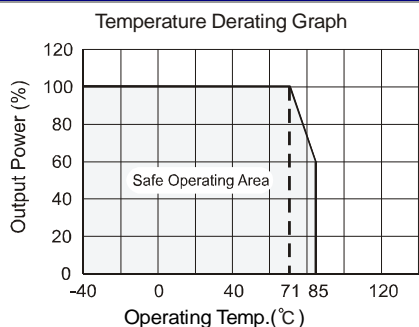
Note:

1. All specifications measured at T_A=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. Only typical models listed. If you need other model, please confirm the power, input voltage and output voltage, and then phone us.

MORNSUN Science & Technology co.,Ltd.

Address: 2th floor 6th building, Huangzhou Industrial District, Guangzhou, China
Tel: 86-20-38601850
Fax:86-20-38601272
[Http://www.mornsun-power.com](http://www.mornsun-power.com)

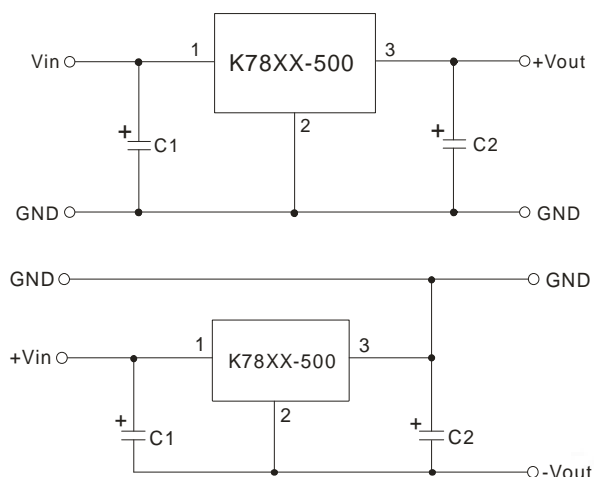
TYPICAL CHARACTERISTICS



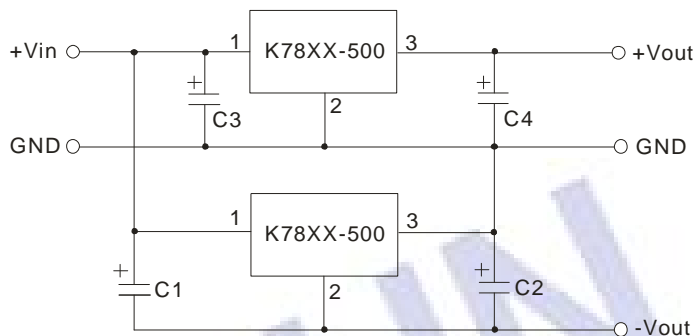
EXTERNAL CAPACITOR TABLE

Part Number	C1,C3 (Ceramic Capacitor)	C2,C4 (Ceramic Capacitor)
K7803-500	10 μ F/50V	22 μ F/6.3V
K7805-500	10 μ F/50V	22 μ F/10V
K78X6-500	10 μ F/50V	10 μ F/10V
K7809-500	10 μ F/50V	10 μ F/16V
K7812-500	10 μ F/50V	10 μ F/25V
K7815-500	10 μ F/50V	10 μ F/25V

STANDARD APPLICATION CIRCUIT



APPLICATION EXAMPLE

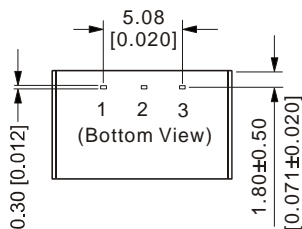
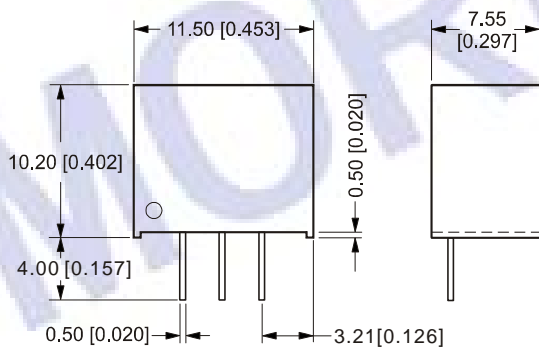


Note:

1. C1 and C2 are required and should be fitted close to the converter pins.
2. The capacitance of C1, C2, C3 and C4 sees external capacitor table, it can be increased properly if required, and tantalum or low ESR electrolytic capacitors may also suffice.
3. No parallel connection or plug and play.

OUTLINE DIMENSION & FOOTPRINT DETAILS

MECHANICAL DIMENSIONS



FOOTPRINT DETAILS		
Pin	Positive	Negative
1	+Vin	+Vin
2	GND	-Vout
3	+Vout	GND

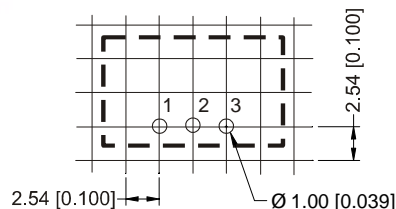
Note:

Unit:mm[inch]

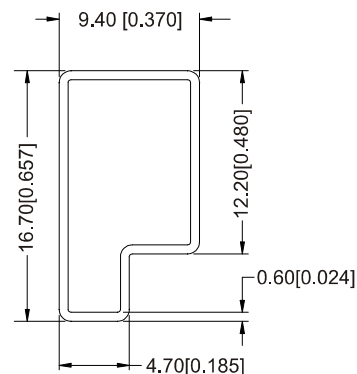
Pin section tolerances: ± 0.10 mm [± 0.004 inch]

General tolerances: ± 0.25 mm [± 0.010 inch]

RECOMMENDED FOOTPRINT



TUBE OUTLINE DIMENSIONS



Note:

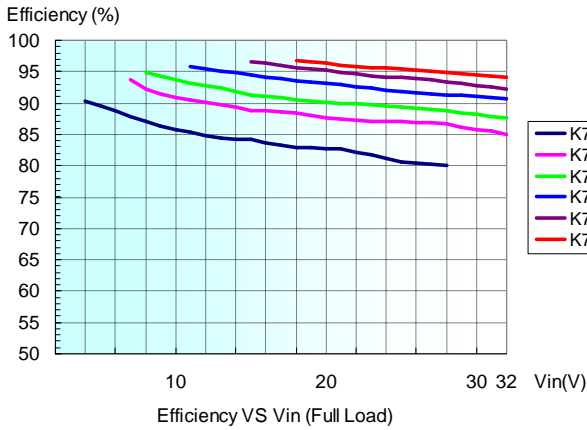
Unit :mm[inch]

General tolerances: ± 0.50 mm [± 0.020 inch]

L=530mm[20.866inch] Devices per tube quantity: 43pcs

L=220mm[8.661inch] Devices per tube quantity: 17pcs

Efficiency



Ripple

