

Features

- I/O non-isolation
- Efficiency up to 95%
- No heat sink required
- Single regulated output
- Short circuit protection
- Pin-out compatible with LM78 linear
- Optimized version(Suffix " R2 " ,optional)
- Wide temperature performance: -40 to 85



Description

The K78xx-500 series are high efficiency switching regulators are suited to replace 78xx linear regulators and pin compatible. The high efficiency performance means it is no need heat sink. Used in industry control system, wireless network, microprocessor power application, telecom/datacom.

Model Selection Guide

Order Code	Vin(V)		Output		Efficiency(%) (Typ)	
	Naminal	Range	Vo(V)	Io(mA)	Min(Vin)	Max(Vin)
K78X2-500(R2)	12	4.75~28	1.8	500	79	66
K7802-500(R2)		4.75~28	2.5	500	85	73
K7803-500(R2)		4.75~28	3.3	500	90	80
K7805-500(R2)		6.5~32	5	500	93	84
K78X6-500(R2)	24	8~32	6.5	500	93	87
K7809-500(R2)		11~32	9	500	95	91
K7812-500(R2)		15~32	12	500	95	92
K7815-500(R2)		18~32	15	500	96	93

* All the specifications typical at Ta=+25 resistive load, nominal input voltage and rated output current unless otherwise noted.

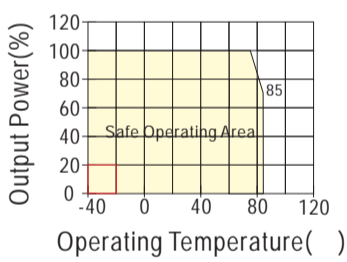
Output Characteristics

Parameter	Condition	Min	Typ	Max	Units
Output voltage accuracy	10% ~ 100% load	--	±1	±2	%
Line regulation	At input voltage range	--	±0.15	±0.3	%
Switching frequency	Full load, nominal input	--	300	430	KHz
Load regulation	10% ~ 100% load	--	±0.3	±0.5	%
Ripple and noise	BW=DC to 20MHz	--	50	--	mVp-p
Dynamic load response	50% ~ 100% load	--	500	--	uS
Temperature coefficient(%/)		--	--	0.02	%/
Quiescent current		--	10	--	mA
Short circuit Protection		Continuous, Automatic Recovery			

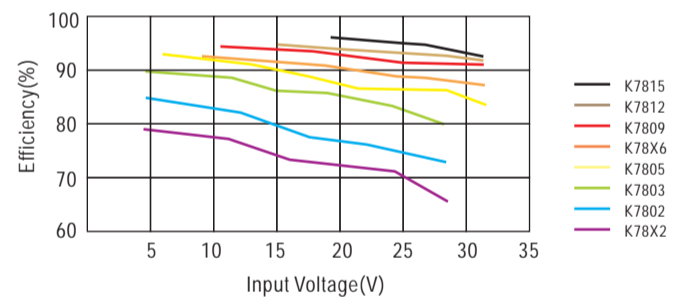
General Characteristics

Parameter	Condition	Min	Typ	Max	Units
Operating Temperature	All output types	-40	--	+85	
Storage		-55	--	+125	
Storage humidity		--	--	+95	%
Cooling	Free air convection	--	--	--	
MTBF	3.5 × 10 ⁶				K hours
Case material		Plastic (UL94-V0)			

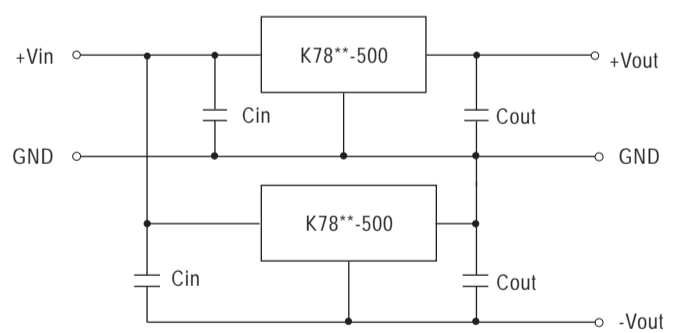
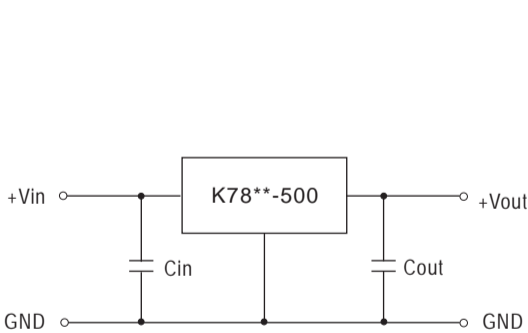
Temperature Derating Graph Curve



Efficiency VS Input Voltage Curve



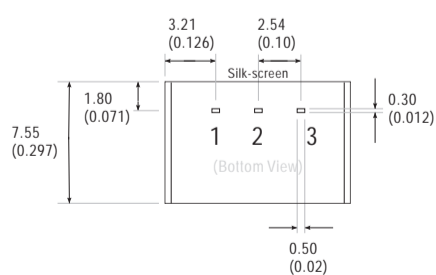
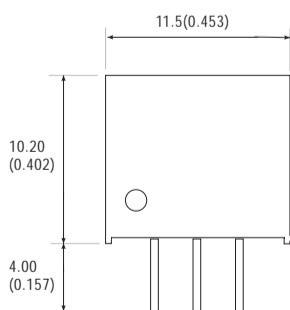
Application



Note :

1. Cin and Cout are required and should be fitted close to the converter pins.
2. The capacitance of Cin and Cout are recommended 10-47uF capacitor. It can be increased properly if required, and tantalum or low ESR electrolytic capacitors may also suffice.

Mechanical Dimension & Pin Connections



Note:
Unit:mm(inch)

Pin	1	2	3
Function	+Vin	GND	+Vo