

Features

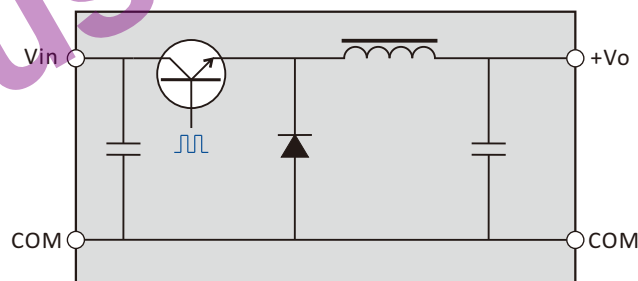
- ◆ Operating temperature: -40 to +85°C
- ◆ Wide input voltage range: 4.75-32Vdc
- ◆ 3.3V/5V/9V/12V/15V output
- ◆ Efficiency up to 97%
- ◆ 100% burn-in
- ◆ No external heat sink
- ◆ Short circuit protection, thermal shutdown
- ◆ UL94V-0 package
- ◆ RoHS compliance
- ◆ Pin-out compatible with LM78XX linear
- ◆ Low ripple and noise

General Description

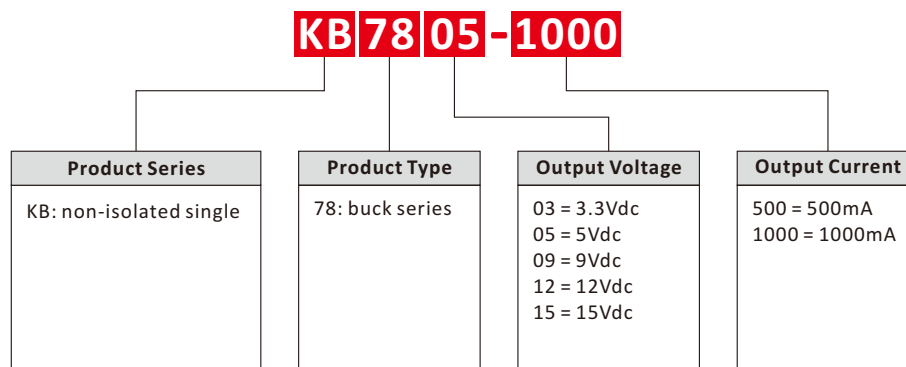
The K78xx-1000 series high efficiency switching regulators are ideally suited to replace 78xx linear regulators and are pin compatible. The efficiency of up to 97% means that very little energy is wasted as heat so there is no need for any heat sinks with their additional space and mounting costs.



Functional Diagram



Selection Guide



KB78xx-1000 Series

1000mA, wide input, non-isolated & regulated single output dc-dc converter



Output Specifications

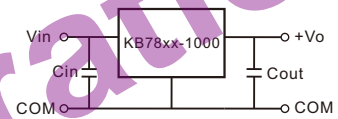
Item	Test Conditions	Min	Typ	Max	Units
Output Current	Ta=-40-+71°C			1000	mA
Line Regulation	100% load, input low to high			±0.4	%
Load Regulation	Nominal, 10%-100% load			±0.6	
Output Voltage Accuracy	Nominal, 100% load			±3	
Temperature Drift	Nominal, 100% load			0.03	%/°C
Ripple & Noise	DC-20MHz bandwidth		20	50	mVp-p
Switching Frequency	Nominal, 100% load	280	330	450	KHz
Short Circuit Protection		Continuous, Automatic Recovery			
Thermal Shutdown	Internal IC junction		150		°C
Quiescent Current			5	8	mA

Application Note

1. Output filter

KB78xx-1000 series of products without any external filter components in the case that can be stable and reliable work. Fully loaded, full range of products, the maximum input ripple does not exceed 500mVp-p, the maximum output ripple of not more than 50mVp-p (typical values 10mVp-p), the normal use without an external filter capacitor.

If you want to further reduce the ripple please connect a external filter circuit at the inputs and outputs (see figure) . Recommended values 10-100uF with input capacitor, and recommended values with output capacitor please see the following table.



Cin	Cout	Lin, Lout
10~100uF	3.3V	22uF
	5V	22uF
	9V	10uF
	12V	10uF
15V	10uF	Not required, Recommended values 4.7~100uH

2. Input polarity protection

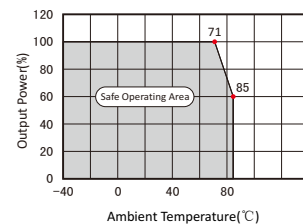
The series product no positive & negative reverse polarity protection, solution is the input series in a diode.

3. This product cannot be used in parallel, can not hot-swappable.

4. On derating

When the environmental temperature exceeds 71°C the module must be derating use, please refer to derating curve.

Temperature Derating Curve

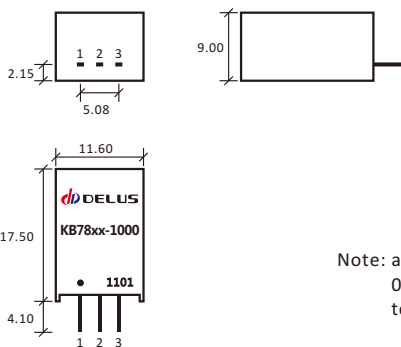


Common Specification

Item	Test Conditions	Min	Typ	Max	Units
Operating Temperature	Ta>71°C Derating	-45		+85	°C
Maximum Case Temp.				80	
Storage Temperature		-50		+130	
Lead Temperature	1.5mm from case for 10 seconds			+300	
Storage Humidity				95	%
Weight			3.7		g
Case Material		Black Plastic (UL94V-0)			

Product Program

Model	Input		Output		Efficiency(%)		Ripple (mVp-p)	Certificate
	Voltage(Vdc)		Voltage (Vdc)	Current (mA)	Vin (min)	Vin (max)		
	Nominal	Range						
KB7803-1000	24	4.75~28	3.3	1000	90	83		
KB7805-1000	24	6.5~32	5	1000	93	88		
KB7809-1000	24	12~32	9	1000	95	95		
KB7812-1000	24	16~32	12	1000	96	94		
Kb7815-1000	24	20~32	15	1000	97	94		



First Angle Projection

Pin	Function
1	Vin
2	COM
3	+Vo

Note: all size units mm, diameter of all terminal 0.5mm, distance between all adjacent terminal 2.54mm

File Release Notes

DBN-302 Technical Data Sheet Version



No.	Version	Data	Description
1	V0	2011/11/01	First release
2			
3			
4			
5			

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1. All data in addition to particular things, are Ta = 25°C, humidity<75%, nominal input voltage and output measured at rated load;
2. Non-standard models with some of the following indicators may be different from the specific circumstances of the Secretary to direct contact with me;
3. In the use of this manual, if some of them do not quite understand terms please refer to our <<DC / DC Converter Application Guide>>;
4. The Company focused on technological improvements, product specifications and parameter updates without notice, to pay attention to the latest information on website: www.delus.cn

All Delus Corporation's products are manufactured, assembled and tested utilizing ISO9001 quality systems.
For information regarding Delus Corporation and its products please see www.delus.cn