

KRB_D-3W~10W Series

WIDE INPUT REGULATED & NON-ISOLATED 3W~10W OUTPUT SINGLE OUTPUT DIP PACKAGE



FEATURES

- Efficiency to 85%
- Operating Temperature: -20~+71°C
- Single Output
- UL94-V0 Package
- No Heat sink Required
- Industry Standard Pin out
- MTBF>1,000,000 hours
- Custom Service Available

APPLICATIONS

The KRB_D-3W~10W Series are specially designed for applications where a wide range input voltage power supplies a reisolated from the input power supply in a distributed power supply system on a circuit board.

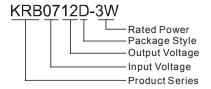
These products apply to:

- 1) Where the voltage of the input power supply is wide range (voltage range: 2:1);
- 2) Where the regulation of the output voltage and the output ripple noise a redemanding.

These products don't apply to:

- 1) Where the input voltage t is required to be more than 2:1;
- 2) Where the isolation voltage between input and output is required;

MODEL SELECTION



PRODUCT PROGRAM Input Output Efficiency Package Part Voltage (VDC) Voltage Current (mA) Number (%, Typ) Style (VDC) Nominal Max* Max Min Range KRB0305D-3W 2.7~4.2VDC 3.3 5.4 5 150 15 80 DIP KRB0712D-3W 7.2 6.4~8.4VDC 10 12 250 25 81 DIP KRB0724D-3W 7.2 6.4~8.4VDC 24 100 10 82 DIP 10 KRB1205D-3W 12 9~18VDC 5 600 60 81 DIP 20 DIP KRB2403D-3W 24 18~36VDC 36 3.3 900 90 79 KRB2405D-3W 24 18~35VDC 35 5 600 60 80 DIP KRB0712D-5W 7.2 6.4~8.4VDC 10 12 417 42 85 DIP KRB1205D-5W 12 9~18VDC 20 5 1000 100 85 DIP KRB2405D-5W 24 18~35VDC 35 5 1000 100 85 DIP KRB0712D-9W 6.4~8.4VDC 10 12 750 DIP

Input voltage above it may cause permanent damage to the device.

ISOLATION SPECIFICATIONS						
Item	Test conditions	Min	Тур	Max	Units	
Isolation voltage	Flash tested for 60 seconds	0			VDC	
Isolation resistance	Test at 500VDC	0			МΩ	

OUTPUT SPECIFICATIONS						
Item	Test conditions	Min	Тур	Max	Units	
3W output power	See below products program 0.3			3	W	
Positive Voltage accuracy	Refer to recommended circuit			±3		
Load regulation	From 10% to 100% load			±0.5	%	
Line regulation	Input Voltage From Low to High			±0.3		
Temperature drift (Vout)	Refer to recommended circuit			0.03	%/°C	
Ripple	20Hz-300KHz bandwidth		30	50	mVD-	
Noise	DC-20MHz bandwidth		80	150	р	
Switching frequency	100% load, nominal input voltage	100		400	KHz	

Note:

1.All specifications measured at T_A =25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.

2. See below recommended circuits for more details.

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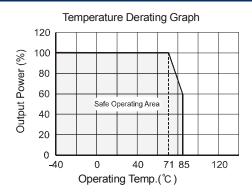
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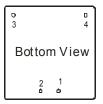
COMMON SPECIFICATION				
Output Short Circuit Protection	Continuous			
Temperature Rise at Full Load	30°C (TYP)			
Cooling	Free Air Convection			
No-load Power Consumption	500mW (typical)			
Operating Temperature Range	-20°C~+71°C			
Storage Temperature Range	-55°C~+125°C			
Lead Temperature***	300°C Max.			
Storage Humidity Range	≤ 95%			
Case Material	Plastic (UL94-V0)			
MTBF	>1,000,000 hours			
***Lead Temperature 1.5mm from case for 10 seconds.				

TYPICAL CHARECTERISTICS



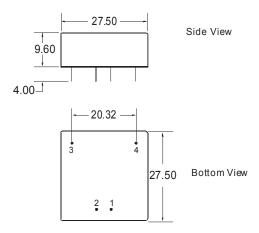
FOOTPRINT DETAILS

Pin	Function		
1 2	GND Vin		
3	+Vo		
4	NC		

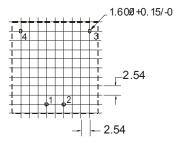


OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT

KRBXXXXD-3W /10W Package



KRBXXXXD-3W /10W Footprint



Note: All Pins on a 2.54mm pitch; All Pin diameters are 0.80 mm(Tolerance: ± 0.1); All dimensions in mm.

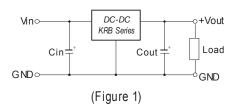
APPLICATION NOTE

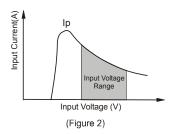
Recommended Circuit

All the KRB_D-3W/10W Series have been tested according to the following recommended testing circuit before leaving factory. This series should be tested under load. Never be tested under no load (See Figure 1 & 2). If you want to further decrease the input/output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high.(See table 1).If you want to use the products in high EMI, please choose our metal packaged products.

Input Curren

When it is used in unregulated power supply, be sure that the fluctuating range of the power.





supply and the rippled voltage do not exceed the module standard. Input current of power supply should afford the startup current of this kind of DC/DC module. (See figure 2)

External Capacitor

Although this series of DC/DC converter can work without external capacitor, in order to keep an optimum performance, however, it needs external capacitor. (See Table 1)

The products cannot be used in parallel.

External Capacitor Table (See Table 1)

Vin	C _{in}	C _{out} (0+70°C)	C _{out} (-40+85°C)
5V & 12V	100uF	100uF	47uF (tantalum
24V & 48V	10uF	(electrolytic capacitor)	capacitor)



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