

URA_D-10W & URB_D-10W Series

10W, 4:1 WIDE INPUT ISOLATED & REGULATED DUAL/SINGLE OUTPUT DC-DC CONVERTER



multi-country patent protection **RoHS**

FEATURES

Operating Temperature: -40°C to +85°C
 I/O-Isolation 1.5KVDC
 Metal shielding Package
 No Heat sink Required
 Industry Standard Pin out
 MTBF>1,000,000 hours
 RoHS Compliance

APPLICATIONS

The URA_D-10W/ URB_D-10W Series are specially designed for applications where a wide range input voltage power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to:

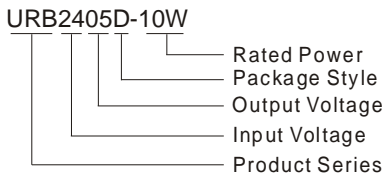
- 1) Where the voltage of the input power supply is wide range (voltage range $\leq 4:1$);
- 2) Where isolation is necessary between input and output (Isolation voltage $\leq 1500\text{VDC}$);
- 3) Where the regulation of the output voltage and the output ripple noise are demanded.

PRODUCT PROGRAM

Part Number	Input			Output		Efficiency (% Typ)	Capacitor Load max**
	Voltage (VDC)			Voltage (VDC)	Current(mA) Max		
	Nominal	Range	Max*				
URA2405D-10W	24	9-36	40	±5	±1000	82	±680
URA2412D-10W				±12	±416	80	±330
URA2415D-10W				±15	±333	80	±110
URB2405D-10W				5	2000	80	2000
URB2412D-10W				12	830	84	690
URB2415D-10W				15	670	81	470
URA4805D-10W	48	18-75	80	±5	±1000	82	±680
URA4812D-10W				±12	±416	78	±330
URA4815D-10W				±15	±333	81	±110
URB4805D-10W				5	2000	81	2000
URB4812D-10W				12	830	84	690
URB4815D-10W				15	670	84	470

*Input voltage can't exceed this value, or will cause the permanent damage.
 **Test by nominal Vin and constant resistive load.

MODEL SELECTION



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COMMON SPECIFICATION

Item	Test Conditions	Min	Typ	Max	Units
Storage humidity				95	%
Operating temperature		-40		85	°C
Storage temperature		-55		125	
Lead Temperature	1.5mm from case for 10 seconds			300	
Temp. rise at full load			50		
Isolation voltage	Tested for 1 minute and 1mA max	1500			VDC
Isolation resistance	Test at 500VDC)	1000			MΩ
Isolation capacitance	(Input/Output)		1000		PF
No-load power consumption			500		mW
Cooling		Free Air Convection			
Short circuit protection		Continuous, automatic recovery			
Case Material		Aluminium alloy			
MTBF		1000			K hours
Weight			19		g

OUTPUT SPECIFICATIONS

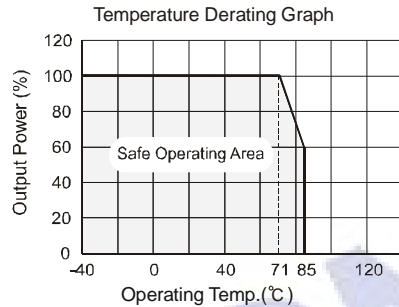
Item	Test Conditions	Min	Typ	Max	Units
Output power	See above products program			10	W
Positive voltage accuracy	Refer to recommended circuit		±1	±3	%
Negative voltage accuracy	Refer to recommended circuit		±3	±5	
Load regulation	From 10% To 100% load		±0.5	±1	
Line regulation(at full load)	Input voltage from low to high		±0.2	±0.5	
Temperature Drift(Vout)	Refer to recommended circuit		0.02		%/°C
Ripple*	20MHz bandwidth		30	50	mVp-p
Noise*	20MHz bandwidth		75	150	
Switching Frequency	100% load, nominal Input voltage		300		KHz

*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

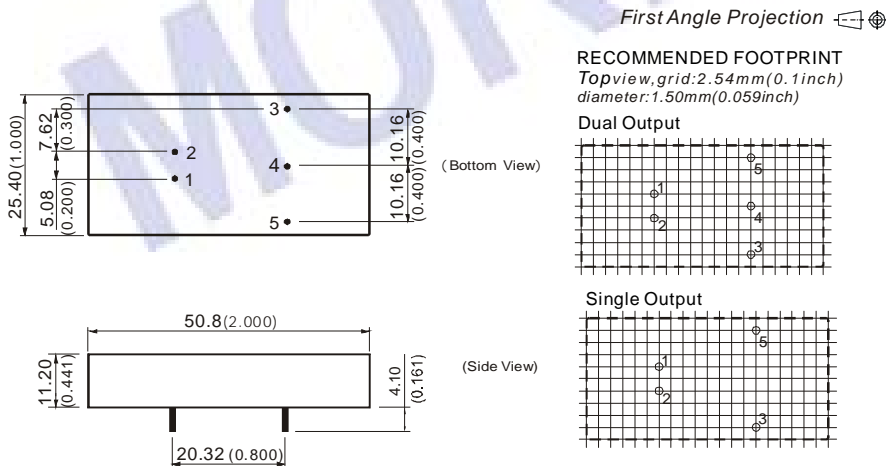
Note:

- All specifications measured at $T_A=25^{\circ}\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- Dual output models unbalanced load: ±5%.

TYPICAL CHARECTERISTICS



OUTLINE DIMENSIONS & FOOTPRINT DETAILS



Note:

Unit:mm(inch)
 Pin diameter:0.80mm(0.032inch)
 Pin diameter tolerances:±0.10mm(±0.004inch)
 General tolerances:±0.25mm(±0.010inch)

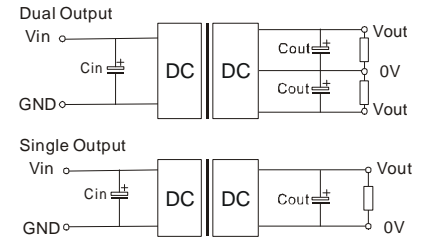
FOOTPRINT DETAILS

Pin	Single	Dual
1	GND	GND
2	Vin	Vin
3	+Vo	+Vo
4	No Pin	COM
5	0V	-Vo

APPLICATION NOTE

Recommended Circuit

All the URA_D-10W & URB_D-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).



(Figure 1)

If you want to further decrease the output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high. (Table 1).

External Capacitor Table (Table 1)

Vin	Cin	Vout	Cout
24V	100uF	5V/±5V	100uF/1 A
48V	100uF	12V/±12V	
--	--	15V/±15V	