

Product Specification

Product model	URB48xxYMD-6WR3
Summary	DC48V input, Output 6W, Ultra wide voltage input, isolation, voltage stabilization, positive and negative single output, YMD package
Product features	1) Ultra wide input voltage range (4:1) 2) Wide operating temperature range : -40°C to +85°C 3) No load power consumption as low as 0.1W 4) Input undervoltage protection, output short circuit, overcurrent, overvoltage protection

1. SELECTION GUIDE

Product model	Input Voltage Standard value(range)	Output Voltage	Output Current (mA) (Max./Min.)	Efficiency % (Min./Typ.)	Maximum capacitive load (μF)
URB4803YMD-6WR3	48VDC (18-75)	3.3VDC	1500/0	76/78	1800
URB4805YMD-6WR3	48VDC (18-75)	5VDC	1200/0	78/83	1000
URB4812YMD-6WR3	48VDC (18-75)	12VDC	500/0	82/85	470
URB4815YMD-6WR3	48VDC (18-75)	15VDC	400/0	82/86	220
URB4824YMD-6WR3	48VDC (18-75)	24VDC	250/0	82/88	100

2. INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Input current (Rated Load)	Nominal voltage input	--	150	155	mA
Input current (No-load)		--	4	10	mA
Reflected ripple current	Nominal voltage input	--	20	--	mA
Input impulse voltage		-0.7	--	100	VDC
Input undervoltage protection		12	15.5	--	VDC
Input filter	Pi type				

Remarks: 1) This product does not support hot plug, 2) Starting voltage: 18VDC

3. OUTPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Output voltage accuracy	0% - 100% load	--	+/-1	+/-3	%
Linear regulation rate	100% load, input voltage from low voltage to high voltage	--	+/-0.2	+/-1	%
Load regulation rate	5% to 100% load	--	+/-0.5	+/-1.5	%
Ripple & Noise	20MHz bandwidth	--	50	90	mVp-p
Temperature drift coefficient	100% load	--	+/-0.03	--	%/°C
Overvoltage/overcurrent protection	Nominal voltage input	110	140	160/190	%Vo / %Io
Short circuit protection	Sustainable, Self-healing				

4. GENERAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation voltage	Input-output, Test time 1 minute, Leakage current less than 1 mA	1500	--	--	VDC
Insulation resistance	Input output, Insulation voltage 500VDC	1000	--	--	MΩ
Isolation capacitance	Input output, 100KHz/0.1V	--	1000	--	pF
Working temperature	Temperature ≥ 85 °C for derating	-40	--	85	°C
Storage temperature		-55	--	125	°C
Storage humidity	Non condensing	--	--	95	%RH
Soldering temperature resistance of pins	The distance from the welding spot to the shell is 1.5mm, 10 seconds	--	--	300	°C
Switching frequency	Full load, Nominal input voltage	--	300	--	kHz
Mean time between failures	MIL-HDBK-217F@25°C	1000	--	--	kHours

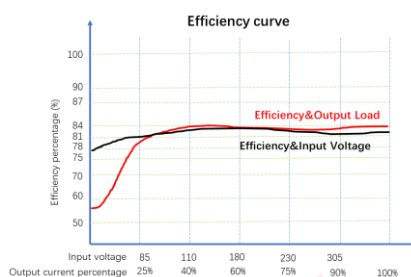
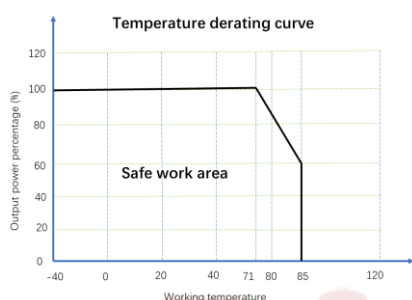
5. PHYSICAL CHARACTERISTICS

Parameter	Content
Housing material	Aluminium alloy
Overall dimensions	25.40 × 25.40 × 11.70 (mm)
Weight	12.5g(Typ.)
Cooling mode	Natural air cooling

6. EMC CHARACTERISTICS

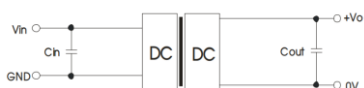
Parameter	Category	Content
EMI	Conductive disturbance	CISPR32/EN55032 CLASS B
	Radiation disturbance	CISPR32/EN55032 CLASS B
EMS	Electrostatic discharge	IEC/EN61000-4-2 Contact ±2KV perf. Criteria B

7. PRODUCT CHARACTERISTICS CURVE

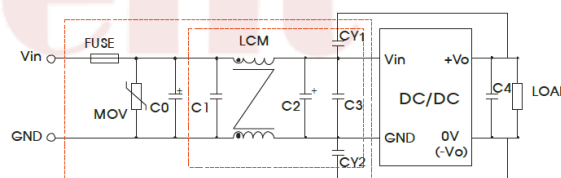


8. CIRCUIT DESIGN AND APPLICATION

Typical application circuit



EMC Typical Recommended Circuits



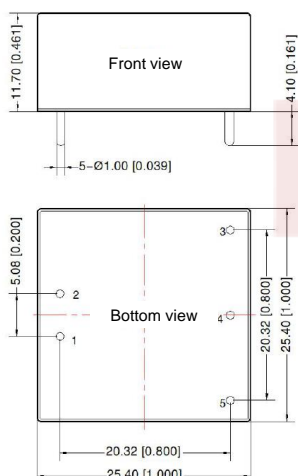
Recommended Capacitive Load Values

Vin(VDC)	Cin(μF)	Vo(VDC)	Cout(μF)
Nominal voltage	100	Nominal voltage	10

Recommended Circuit Parameter Values

Component	Value	Component	Value
FUUSE	As required	C3	4.7μF/50V
MOV	20D470K	C4	Refer to Cout parameter
C0	680μF/50V	LCM	4.7mH
C1	1μF/50V	CY1	1nF/2kV
C2	330μF/50V	CY2	1nF/2kV

9. OVERALL DIMENSIONS & PIN FUNCTIONS



Note:
 Dimensions in mm [inch]
 Terminal diameter tolerance: +/-0.10 [+/-0.004]
 Undeclared tolerance: +/-0.50 [+/-0.020]

Pin Function Table

Pin	Single way	Double way
1	GND	GND
2	Vin	Vin
3	+Vo	+Vo
4	No Pin	0V
5	0V	-Vo

10. REMARKS/DESCRIPTION

- 1) The input voltage shall not exceed the specified range value, otherwise permanent and unrecoverable damage may be caused;
- 2) Unless otherwise specified, the parameters in this manual are measured at 25 °C, 40%~75% humidity, input nominal voltage and output pure resistance mode under full load;
- 3) All index test methods are based on the company's enterprise standards.
- 4) The copyright and the final interpretation right of the product belong to DIGENT.