

TECHNICAL DATA
DATA SHEET 2052, REV. A

DC-DC Converters
Wide Input (2:1), 1000V Isolation, Regulated

FEATURES:

- Isolation Voltage: 1000Vdc
- Isolation Resistance (1): 1GΩ
- Short-Circuit Duration: Continuous
- Case Temperature Rise: Max. 25°C, Typ. 15°C
- Cooling Method: Free-Air Cooling
- Operating Temp.: -40°C ~ + 85°C
- Storage Temp.: -55°C ~ + 125°C
- Humidity: ≤ 95%
- Soldering Temp. (2): 300°C
- Case Material: Non-Flammable Material (UL94-V0)
- Mean Time Before Failure: > 1,090,000 hours (Operating Temp. 25°C)

W-2W/3W Series Input Characteristics

Part Number	Nominal Input Voltage	Input Voltage Range	Maximum Input Voltage*
W05XXGDC2/3	5Vdc	4.5~9Vdc	11Vdc
W12XXGDC2/3	12Vdc	9~18Vdc	22Vdc
W15XXGDC2/3	15Vdc	12~24Vdc	30Vdc
W24XXGDC2/3	24Vdc	18~36Vdc	40Vdc
W48XXGDC2/3	48Vdc	36~72Vdc	80Vdc

* Voltage above this value may cause permanent damage to the device.

W-2W/3W Series Output Characteristics

Parameter	MIN	TYP	MAX	Units
Output Power	-	-	3	W
Output Voltage Accuracy	-	± 1	± 3	%
Efficiency at 25% Load	-	65	-	%
Efficiency at 100% Load	-	75	-	%
Voltage Regulation	-	0.1	0.2	%
Vout (+) Load Regulation		0.2	0.5	%
Vout (-) Load Regulation		3	5	%
Temperature Coefficient		-	0.02	%/°C
Ripple		10	20	mVp-p
Noise		50	100	
Switching Frequency at 100% Load	80	-	200	kHz
Switching Frequency at 25% Load	250	-	550	kHz

1. All specifications at TA=25°C, 75% of the humidity, Nominal input voltage, full output load unless otherwise specified.
2. Soldering for 10 seconds at 1.5mm away from the edge.

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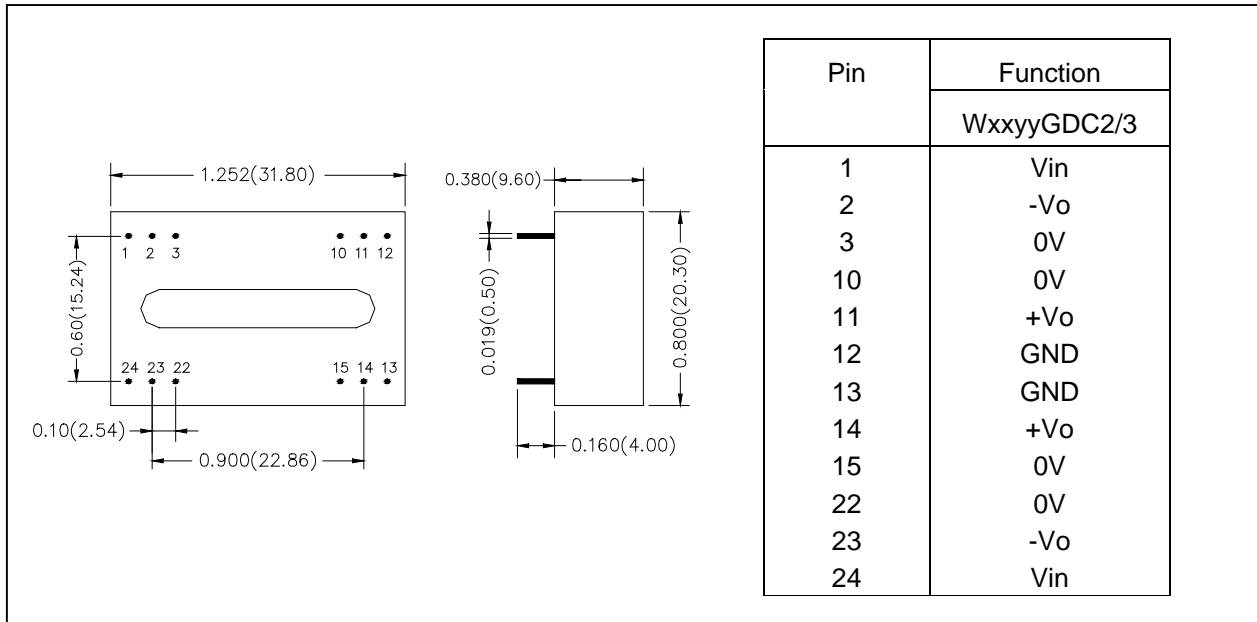
W-2W/3W Series Part Number List

Input	Output	Power	Dual-2W	Dual-3W		
5Vdc			W0505GDC2	W0505GDC3		
			W0509GDC2	W0509GDC3		
			W0512GDC2	W0512GDC3		
			W0515GDC2	W0515GDC3		
12Vdc			W1205GDC2	W1205GDC3		
			W1209GDC2	W1209GDC3		
			W1212GDC2	W1212GDC3		
			W1215GDC2	W1215GDC3		
15Vdc			±5V/200mA	2.00W	W1505GDC2	W1505GDC3
			±9V/111mA	2.00W	W1509GDC2	W1509GDC3
			±12V/83mA	2.00W	W1512GDC2	W1512GDC3
			±15V/67mA	2.00W	W1515GDC2	W1515GDC3
	±5V/300mA	3.00W				
24Vdc	±9V/160mA	3.00W	W2405GDC2	W2405GDC3		
	±12V/125mA	3.00W	W2409GDC2	W2409GDC3		
	±15V/100mA	3.00W	W2412GDC2	W2412GDC3		
48Vdc			W2415GDC2	W2415GDC3		
			W4805GDC2	W4805GDC3		
			W4809GDC2	W4809GDC3		
			W4812GDC2	W4812GDC3		
			W4815GDC2	W4815GDC3		

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Mechanical Dimension: in inches / (mm) & Pin Configuration

WxxyyGDC2/3 PACKAGE DIMENTIONS



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APPLICATION NOTE

Recommended Circuit

This 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). To get an extremely low ripple, an “LC” filtering network may be connected to the input and output ends of the DC/DC converter, which may produce a more significant filtering effect. It should also be noted that the inductance and the frequency of the “LC” filtering network should be staggered with the DC/DC frequency to avoid mutual interference (see figure 1).

Input Current

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)

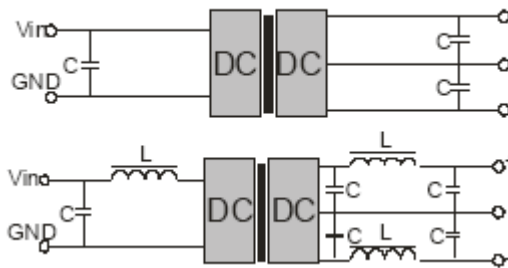
External Capacitor

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)

Requirement on Output Load

To ensure this module operate efficiently and reliably, a minimum load is specified for this kind of DC/DC converter in addition to a maximum load (namely full load). During operation, make sure the specified range of input voltage is not exceeded, the minimum out put load is not less than 10% of the full load, and that this product **should never be operated under no load!!!** If the actual load is less below the specified minimum load, the output ripple of this type of DC/DC converter will increase drastically and at the same time efficiency & reliability of the circuit will decrease deeply . If the actual small, please connect a resistor with proper increase the load, or use our company’s other products with a lower rated output power.

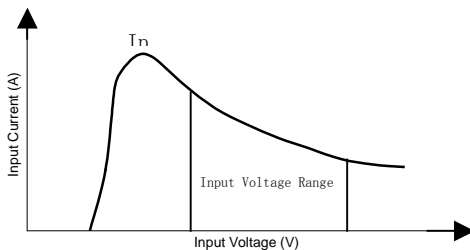
The products cannot be used in parallel and in plug and play.



<Figure 1>

External Capacitor Table (Table 1)

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



<Figure 2>

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