

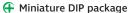
### 2D16WA 1.5RP Series

2W - Dual/Single Output - Wide Input - Isolated & Regulated DC-DC Converter



### **DC-DC Converter**

2 Watt



2:1 wide input voltage range

Operating temperature: -40°C to +85°C

1500VDC isolation

• No heat sink required

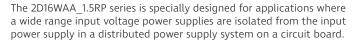
No external component required

Industry standard pinout

← Internal SMD construction

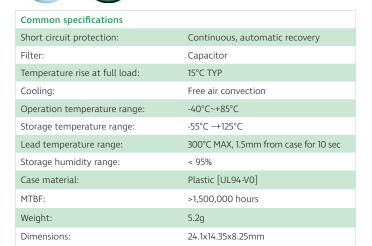
Short circuit protection (SCP; automatic recovery)

**RoHS Compliance** 



These products apply to:

- 1) Where the voltage of the input power supply is wide range (voltage range ≤2:1)
- Where isolation is necessary between input and output (isolation voltage ≤1500VDC)
- Where the regulation of the output voltage and the output ripple noise are demanded.



2D16WA 1205S1.5RP

2= 2Watt; D16= DIP16; W= Wide Input 2:1; A= Pinning; 12 VDC nominal= 9-18Vin; 5Vout; S= Single Output; 1.5= 1500VDC Isolation; R= Regulated Output; P= Short Circuit Protection

Output specifications							
Item	Test condition	Min	Тур	Max	Units		
Voltage tolerance				±2	%		
Line regulation	Regulated			±0.5	%		
Load regulation	Regulated			±0.8	%		
Temperature drift	Refer to recommended circuit			±0.03	%/°C		
Transient response setting time	50% load step change		350		μs		
Ripple & Noise	20MHz Bandwidth			100	mVp-p		
Switching frequency	full load, nominal input		100		KHz		

Isolation specifications							
Item	Test condition	Min	Тур	Max	Units		
Isolation voltage	Tested for 1 minute and 1mA max	1500			VDC		
Isolation resistance	Test at 500VDC	1000			ΜΩ		

### Note:

- 1. The load shouldn't be less than 10%, otherwise ripple will increase dramatically.
- 2. Operation under 10% load will not damage the converter; However, they may not meet all specification listed.
- 3. All specifications measured at Ta=25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
- 4. In this datasheet, all the test methods of indications are based on corporate standards.
- 5. Only typical models listed, other models may be different, please contact our technical person for more details.

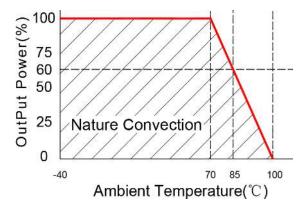
### 2D16WA 1.5RP Series

2W - Dual/Single Output - Wide Input - Isolated & Regulated DC-DC Converter

DIGWA_OSISSISRP	Part Number	<b>Input Volt</b> Nominal	age [VDC] Range	Output Voltage [VDC]	Current [mA, max.]	Efficiency [%, Typ.]
DIGWA_OSIZSI,SRP   5	2D16WA_0503S1.5RP	5	4.5-9	3.3	500	70
DIGWA_OSISSISRP   5	2D16WA_0505S1.5RP	5	4.5-9	5	400	70
DIGWA_O52451.5RP	2D16WA_0512S1.5RP	5	4.5-9	12	167	75
DIGWA_120351.5RP 12 9-18 3.3 500 70 DIGWA_120351.5RP 12 9-18 5 400 75 DIGWA_121251.5RP 12 9-18 12 167 80 DIGWA_121251.5RP 12 9-18 15 133 80 DIGWA_121251.5RP 12 9-18 24 84 84 83 DIGWA_240351.5RP 24 18-36 3.3 500 70 DIGWA_240351.5RP 24 18-36 5 400 76 DIGWA_240551.5RP 24 18-36 15 167 80 DIGWA_240551.5RP 24 18-36 15 400 76 DIGWA_240551.5RP 24 18-36 15 167 80 DIGWA_240551.5RP 24 18-36 15 167 80 DIGWA_240551.5RP 24 18-36 15 133 80 DIGWA_251.5RP 24 18-36 24 84 84 83 DIGWA_251.5RP 25 4.5-9 ±5 ±200 70 DIGWA_251.5RP 5 4.5-9 ±15 ±200 70 DIGWA_251.5RP 5 4.5-9 ±15 ±200 70 DIGWA_251.5RP 5 4.5-9 ±15 ±67 78 DIGWA_05101.5RP 5 4.5-9 ±24 ±42 80 DIGWA_151051.5RP 12 9-18 ±15 ±200 75 DIGWA_152051.5RP 12 9-18 ±15 ±200 76 DIGWA_152051.5RP 12 9-18 ±15 ±200 76 DIGWA_152051.5RP 12 9-18 ±24 ±42 ±83 DIGWA_240501.5RP 12 9-18 ±15 ±200 76 DIGWA_240501.5RP 12 9-18 ±24 ±42 ±83 DIGWA_240501.5RP 12 9-18 ±24 ±45 ±46 ±46 ±46 ±46 ±46 ±46 ±46 ±46 ±46 ±46	2D16WA_0515S1.5RP	5	4.5-9	15	133	78
DIGWA_1205S1.SRP 12 9-18 5 4.00 75 DIGWA_1212S1.SRP 12 9-18 12 167 80 DIGWA_1212S1.SRP 12 9-18 15 133 80 DIGWA_121SS1.SRP 12 9-18 24 84 84 83 DIGWA_2403S1.SRP 24 18-36 3.3 500 70 DIGWA_2405S1.SRP 24 18-36 5 400 76 DIGWA_2415S1.SRP 24 18-36 15 400 76 DIGWA_2415S1.SRP 24 18-36 15 133 80 DIGWA_2445S1.SRP 24 18-36 15 167 80 DIGWA_2445S1.SRP 24 18-36 15 133 80 DIGWA_2445S1.SRP 24 18-36 15 133 80 DIGWA_2445S1.SRP 24 18-36 24 84 84 83 DIGWA_2645S1.SRP 24 18-36 15 133 80 DIGWA_2645S1.SRP 24 18-36 24 84 84 83 DIGWA_0505D1.SRP 5 4.5-9 ±5 ±200 70 DIGWA_051DISRP 5 4.5-9 ±12 ±83 75 DIGWA_051DISRP 5 4.5-9 ±12 ±83 75 DIGWA_051DISRP 5 4.5-9 ±12 ±83 75 DIGWA_051DISRP 5 4.5-9 ±12 ±83 80 DIGWA_12051.SRP 12 9-18 ±15 ±200 75 DIGWA_120501.SRP 12 9-18 ±15 ±200 75 DIGWA_1212D1.SRP 12 9-18 ±15 ±200 76 DIGWA_1212D1.SRP 12 9-18 ±12 ±83 80 DIGWA_1212D1.SRP 12 9-18 ±12 ±83 80 DIGWA_1212D1.SRP 12 9-18 ±15 ±67 80 DIGWA_1212D1.SRP 12 9-18 ±15 ±67 80 DIGWA_1212D1.SRP 12 9-18 ±12 ±83 80 DIGWA_1212D1.SRP 12 9-18 ±15 ±200 76 DIGWA_1215D1.SRP 12 9-18 ±15 ±200 76 DIGWA	2D16WA_0524S1.5RP	5	4.5-9	24	84	80
DIGWA_121251.5RP 12 9-18 12 167 80  DIGWA_121251.5RP 12 9-18 15 133 80  DIGWA_121251.5RP 12 9-18 24 84 84 83  DIGWA_240351.5RP 24 18-36 3.3 500 70  DIGWA_2405S1.5RP 24 18-36 5 400 76  DIGWA_241251.5RP 24 18-36 12 167 80  DIGWA_241251.5RP 24 18-36 15 133 80  DIGWA_241251.5RP 24 18-36 15 133 80  DIGWA_241251.5RP 24 18-36 15 133 80  DIGWA_241551.5RP 24 18-36 15 133 80  DIGWA_241551.5RP 24 18-36 24 84 83  DIGWA_0505D1.5RP 5 4.5-9 ±5 ±200 70  DIGWA_0512D1.5RP 5 4.5-9 ±12 ±83 75  DIGWA_0512D1.5RP 5 4.5-9 ±15 ±67 78  DIGWA_0512D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_0512D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_1212D1.5RP 12 9-18 ±15 ±200 75  DIGWA_1212D1.5RP 12 9-18 ±12 ±83 80  DIGWA_1212D1.5RP 12 9-18 ±12 ±83 80  DIGWA_1212D1.5RP 12 9-18 ±24 ±42 83  DIGWA_245D1.5RP 12 9-18 ±24 ±42 ±83  DIGWA_245D1.5RP 14 8-36 ±15 ±67 80  DIGWA_245D1.5RP 24 18-36 ±15 ±67 80  DIGWA_245D1.5RP 24 18-36 ±15 ±67 80  DIGWA_245D1.5RP 24 18-36 ±15 ±67 80	2D16WA_1203S1.5RP	12	9-18	3.3	500	70
DIGWA_1215S1.5RP 12 9-18 15 133 80  DIGWA_1224S1.5RP 12 9-18 24 84 83  DIGWA_2403S1.5RP 24 18-36 3.3 500 70  DIGWA_2405S1.5RP 24 18-36 5 400 76  DIGWA_2412S1.5RP 24 18-36 12 167 80  DIGWA_2412S1.5RP 24 18-36 15 133 80  DIGWA_2424S1.5RP 24 18-36 15 133 80  DIGWA_2424S1.5RP 24 18-36 24 84 83  DIGWA_2605D1.5RP 5 4.5-9 ±5 ±200 70  DIGWA_0512D1.5RP 5 4.5-9 ±15 ±67 78  DIGWA_0524D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_0524D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_1205D1.5RP 12 9-18 ±15 ±200 75  DIGWA_1205D1.5RP 12 9-18 ±15 ±200 75  DIGWA_1212D1.5RP 12 9-18 ±15 ±467 80  DIGWA_1212D1.5RP 12 9-18 ±24 ±42 83  DIGWA_1212D1.5RP 12 9-18 ±24 ±42 83  DIGWA_1215D1.5RP 12 9-18 ±15 ±467 80  DIGWA_1215D1.5RP 12 9-18 ±24 ±42 83  DIGWA_1215D1.5RP 12 9-18 ±24 ±42 83  DIGWA_2424D1.5RP 12 9-18 ±24 ±42 83  DIGWA_2425D1.5RP 12 9-18 ±24 ±42 83  DIGWA_2425D1.5RP 12 9-18 ±24 ±42 83  DIGWA_2425D1.5RP 12 9-18 ±24 ±42 83  DIGWA_2405D1.5RP 14 18-36 ±15 ±200 76  DIGWA_2415D1.5RP 24 18-36 ±15 ±200 76  DIGWA_2415D1.5RP 24 18-36 ±15 ±200 76	2D16WA_1205S1.5RP	12	9-18	5	400	75
DIGWA_1224S15RP 12 9-18 24 18-36 33 500 70  DIGWA_2405S15RP 24 18-36 33 500 70  DIGWA_2405S15RP 24 18-36 5 400 76  DIGWA_2412S15RP 24 18-36 12 167 80  DIGWA_2412S1.5RP 24 18-36 15 133 80  DIGWA_2424S15.RP 24 18-36 24 84 83  DIGWA_2424S1.5RP 24 18-36 24 84 84 83  DIGWA_0505D1.5RP 5 4.5-9 ±5 ±200 70  DIGWA_0512D1.5RP 5 4.5-9 ±15 ±67 78  DIGWA_0524D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_0524D1.5RP 5 4.5-9 ±24 ±42 80  DIGWA_1205D1.5RP 12 9-18 ±5 ±200 75  DIGWA_1212D1.5RP 12 9-18 ±15 ±67 80  DIGWA_1212D1.5RP 12 9-18 ±24 ±42 83  DIGWA_1212D1.5RP 12 9-18 ±24 ±42 83  DIGWA_1212D1.5RP 12 9-18 ±15 ±67 80  DIGWA_2405D1.5RP 24 18-36 ±15 ±200 76  DIGWA_2405D1.5RP 24 18-36 ±15 ±200 76  DIGWA_2415D1.5RP 24 18-36 ±15 ±200 76	2D16WA_1212S1.5RP	12	9-18	12	167	80
DIGWA_240SS1.SRP	2D16WA_1215S1.5RP	12	9-18	15	133	80
D16WA_2405S1.5RP 24 18-36 5 400 76 D16WA_2412S1.5RP 24 18-36 12 167 80 D16WA_2412S1.5RP 24 18-36 15 133 80 D16WA_2424S1.5RP 24 18-36 24 84 83 D16WA_050SD1.5RP 5 4.5-9 ±5 ±200 70 D16WA_051SD1.5RP 5 4.5-9 ±12 ±83 75 D16WA_051SD1.5RP 5 4.5-9 ±15 ±67 78 D16WA_0524D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_120SD1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±15 ±67 80 D16WA_2405D1.5RP 24 18-36 ±15 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±15 ±67 80 D16WA_241ZD1.5RP 24 18-36 ±15 ±67 80	2D16WA_1224S1.5RP	12	9-18	24	84	83
D16WA_2412S1.5RP	2D16WA_2403S1.5RP	24	18-36	3.3	500	70
D16WA_2424S1.SRP	2D16WA_2405S1.5RP	24	18-36	5	400	76
D16WA_2424S1.SRP	2D16WA_2412S1.5RP	24	18-36	12	167	80
D16WA_OS5D1.5RP 5 4.5-9 ±12 ±83 75 D16WA_OS12D1.5RP 5 4.5-9 ±15 ±67 78 D16WA_OS12D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_OS24D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_1205D1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±15 ±67 80 D16WA_1212D1.5RP 12 9-18 ±15 ±67 80 D16WA_1212D1.5RP 12 9-18 ±15 ±67 80 D16WA_122D1.5RP 12 9-18 ±15 ±67 80 D16WA_122D1.5RP 12 9-18 ±24 ±42 83 D16WA_122D1.5RP 12 9-18 ±15 ±67 80 D16WA_122D1.5RP 12 9-18 ±24 ±42 83 D16WA_122D1.5RP 12 9-18 ±24 ±42 83 D16WA_244D1.5RP 24 18-36 ±5 ±200 76 D16WA_244D5D1.5RP 24 18-36 ±15 ±67 80 D16WA_2412D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±15 ±67 80	2D16WA_2415S1.5RP	24	18-36	15	133	80
D16WA_O512D1.5RP 5 4.5-9 ±12 ±83 75 D16WA_O512D1.5RP 5 4.5-9 ±15 ±67 78 D16WA_O524D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_1205D1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±12 ±83 80 D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2442D1.5RP 24 18-36 ±5 ±200 76 D16WA_24412D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80	2D16WA_2424S1.5RP	24	18-36	24	84	83
D16WA_0515D1.5RP 5 4.5-9 ±15 ±67 78 D16WA_0515D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_1205D1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±12 ±83 80 D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1225D1.5RP 12 9-18 ±24 ±42 83 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2405D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80	2D16WA_0505D1.5RP	5	4.5-9	±5	±200	70
D16WA_0524D1.5RP 5 4.5-9 ±24 ±42 80 D16WA_1205D1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±12 ±83 80 D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_0512D1.5RP	5	4.5-9	±12	±83	75
D16WA_1205D1.5RP 12 9-18 ±5 ±200 75 D16WA_1212D1.5RP 12 9-18 ±12 ±83 80 D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_0515D1.5RP	5	4.5-9	±15	±67	78
D16WA_1212D1.5RP 12 9-18 ±12 ±83 80 D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_0524D1.5RP	5	4.5-9	±24	±42	80
D16WA_1215D1.5RP 12 9-18 ±15 ±67 80 D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_1205D1.5RP	12	9-18	±5	±200	75
D16WA_1224D1.5RP 12 9-18 ±24 ±42 83 D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_1212D1.5RP	12	9-18	±12	±83	80
D16WA_2405D1.5RP 24 18-36 ±5 ±200 76 D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_1215D1.5RP	12	9-18	±15	±67	80
D16WA_2412D1.5RP 24 18-36 ±12 ±83 80 D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_1224D1.5RP	12	9-18	±24	±42	83
D16WA_2415D1.5RP 24 18-36 ±15 ±67 80	2D16WA_2405D1.5RP	24	18-36	±5	±200	76
<del>-</del>	2D16WA_2412D1.5RP	24	18-36	±12	±83	80
D16WA_2424D1.5RP 24 18-36 ±24 ±42 83	2D16WA_2415D1.5RP	24	18-36	±15	±67	80
	2D16WA_2424D1.5RP	24	18-36	±24	±42	83

<sup>\*</sup>Input voltage can't exceed this value, or will cause permanent damage.

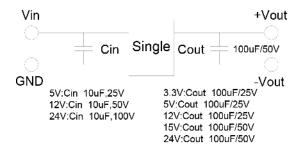
# Typical characteristics

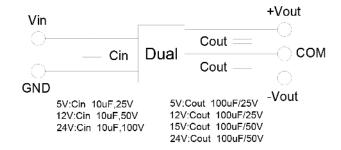


### 2D16WA 1.5RP Series

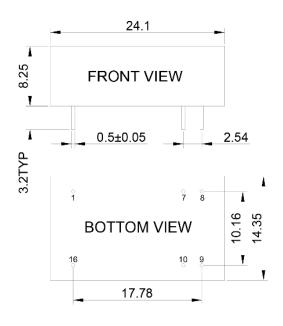
2W - Dual/Single Output - Wide Input - Isolated & Regulated DC-DC Converter

### Recommended test circuit





## **Mechanical dimensions**



### PIN connection

PIN	1	7	8	9	10	16
Single	-Vin	NC	NC	+Vout	-Vout	+Vin
Dual	-Vin	NC	СОМ	+Vout	-Vout	+Vin

Note:

Unit: mm[inch]

General tolerances: ±0.25mm [±0.010inch]