

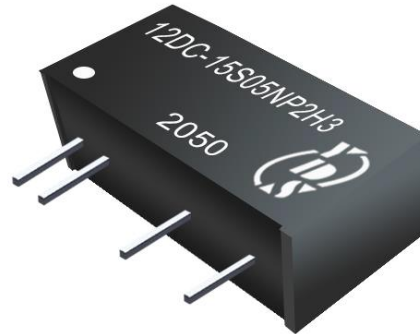
Features

- 7PIN SIP package
- No-load input current as low as 5mA
- Continuous short-circuit protection
- High efficiency up to 89%
- Unregulated output types
- 1.5KVDC ~ 6KVDC isolation
- Industry standard pinout



4112DC-2W AC-DC PSU Series

2W Encapsulated DC/DC SIP PCB Mount Power Supply



The 4112DC-2W Series is a durable and consistent Internal Power Supply (PSU)>PCB Mount Power Supplies. Designed for use in applications such as computing platforms and communications equipment. This series is supplied with a Pin Connection input connection and supports input voltages of 3.3~24 ~V DC.

Models

Model	Voltage (V) DC	Rated Current (mA)	% Efficiency	Ripple and Noise mVp-
4112DC-05S03NP2-Hx	3.3	600	78	2400
4112DC-05S05NP2-Hx	5	400	84	2400
4112DC-05S09NP2-Hx	9	223	85	820
4112DC-05S12NP2-Hx	12	167	85	470
4112DC-05S15NP2-Hx	15	133	86	220
4112DC-05S24NP2-Hx	21	84	87	100
4112DC-05D03NP2-Hx	±3.3	±300	78	±1200
4112DC-05D05NP2-Hx	±5	±200	82	±1200
4112DC-05D09NP2-Hx	±9	±112	85	±330
4112DC-05D12NP2-Hx	±12	±84	85	±330
4112DC-05D15NP2-Hx	±15	±67	87	±220
4112DC-05D24NP2-Hx	±24	±42	88	±47

4112DC-12S03NP2-Hx	3.3	600	80.0%	2400
4112DC-15S03NP2-Hx	3.3	600	80.0%	2400
4112DC-24S03NP2-Hx	3.3	600	80.0%	2400
4112DC-12S05NP2-Hx	5	400	85.0%	2400
4112DC-15S05NP2-Hx	5	400	85.0%	2400
4112DC-24S05NP2-Hx	5	400	85.0%	2400
4112DC-12S09NP2-Hx	9	223	87.0%	820
4112DC-15S09NP2-Hx	9	223	87.0%	820
4112DC-24S09NP2-Hx	9	223	87.0%	820
4112DC-12S12NP2-Hx	12	167	87.0%	470
4112DC-15S12NP2-Hx	12	167	87.0%	470
4112DC-24S12NP2-Hx	12	167	87.0%	470
4112DC-12S15NP2-Hx	15	133	88.0%	220
4112DC-15S15NP2-Hx	15	133	88.0%	220
4112DC-24S15NP2-Hx	15	133	88.0%	220
4112DC-12S24NP2-Hx	24	84	89.0%	100
4112DC-15S24NP2-Hx	24	84	89.0%	100
4112DC-24S24NP2-Hx	24	84	89.0%	100
4112DC-12D03NP2-Hx	3.3	300	80.0%	±1200
4112DC-15D03NP2-Hx	3.3	300	80.0%	±1200
4112DC-24D03NP2-Hx	3.3	300	80.0%	±1200
4112DC-12D05NP2-Hx	5	200	82.0%	±1200
4112DC-15D05NP2-Hx	5	200	82.0%	±1200
4112DC-24D05NP2-Hx	5	200	82.0%	±1200
4112DC-12D09NP2-Hx	9	112	85.0%	±330
4112DC-15D09NP2-Hx	9	112	85.0%	±330
4112DC-24D09NP2-Hx	9	112	85.0%	±330
4112DC-12D12NP2-Hx	12	84	87.0%	±330
4112DC-15D12NP2-Hx	12	84	87.0%	±330
4112DC-24D12NP2-Hx	12	84	87.0%	±330
4112DC-12D15NP2-Hx	15	67	88.0%	±100
4112DC-15D15NP2-Hx	15	67	88.0%	±100
4112DC-24D15NP2-Hx	15	67	88.0%	±100
4112DC-12D24NP2-Hx	24	42	89.0%	±47
4112DC-15D24NP2-Hx	24	42	89.0%	±47
4112DC-24D24NP2-Hx	24	42	89.0%	±47

Note:

1:No suffix is standard isolation (1.5KVDC) e.g, 12DC-05S05NP2,
 *add suffix "H3" for 3KVDC isolation, *add suffix "H4" for 4KVDC isolation,
 *add suffix "H5" for 5.2KVDC isolation, *add suffix "H6" for 6KVDC isolation,
 2:"XX" is input Voltage : 12=12Vdc, 15=15Vdc, 24=24Vdc
 e.g, 12DC-12S05NP2, 12DC-15S12NP2H3, 12DC-24S15N2PH6

Input Specifications

Voltage Range	Vo,lo Nom +10%
Filter	Capacitor

Output Specifications					
Parameters	Conditions	min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Continuous				
Line Regulation	For 1.0% OF Vin		1.2		%
Load Regulation	3.3V (10% To 100% F.L)		15	20	%
	5V (10% To 100% F.L)		8	15	%
	9V (10% To 100% F.L)		6	10	%
	12V (10% To 100% F.L)		5	10	%
	15V (10% To 100% F.L)		4	10	%
	24V (10% To 100% F.L)		3	10	%
Ripple & Noise	BW=DC to 20MHz		75	150	mVp-p

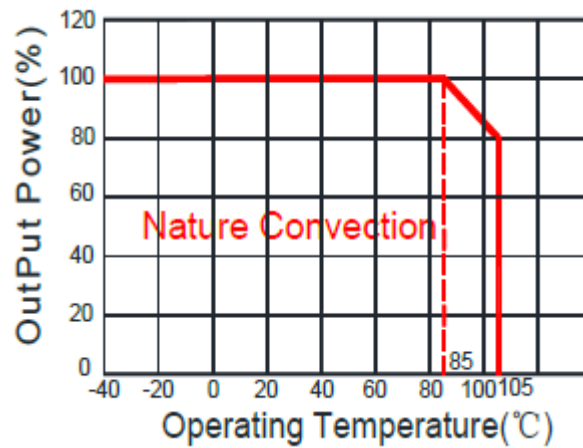
General Specifications	
Switching Frequency	Full load, nominal input @5V Vin 215 KHz Full load, nominal input @other Vin 250 KHz
Isolation Resistance	500Vdc, 1000 min, MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V 20 pF
Operation Temperature	-40 ~ +105 °C
Storage Temperature	-55 ~ +125 °C
Humidity	Non Condensing 95 %
Cooling	Free air Convection
Case material	DAP
MTBF	MIL-HDBK-217F@25°C 3500000 Hours
Weight	2.1g
Dimensions	19.5x6.0x10.0 mm

Electromagnetic Compatibility (EMC)	
EMI CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
EMI RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
EMS ESD	IEC/EN61000-4-2 Air ±8kV ,Contact ±6kV perf. Criteria B

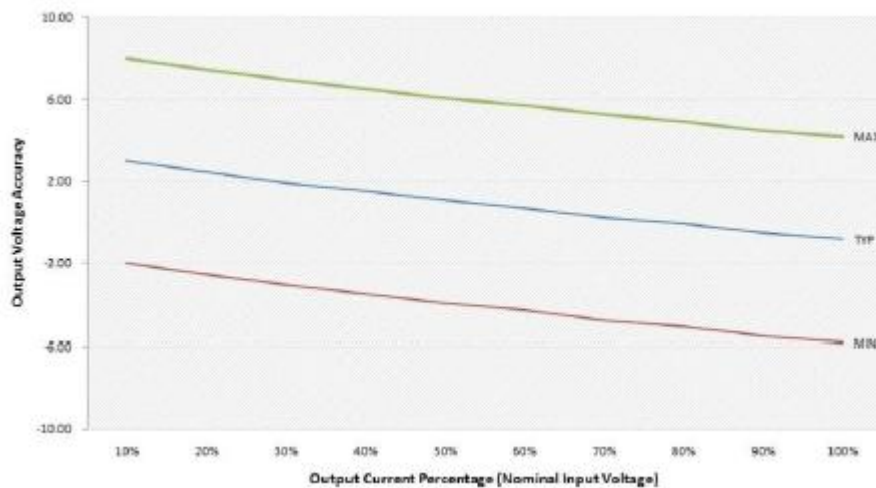
Part Number	
4112DC - 05 D 12 N P 2 -Hx	
A B C D E F G H	
A:Series B:Input Voltage C:Single(S)/Dual(D)Output D:Output Voltage E:Unregulated(N) F:Protection G:Output Power H:Isolation Voltage	

Packaging	
Carton Size	38 x 19.5 x 22.5 cm
Master Carton Quantities	20pcs/carton

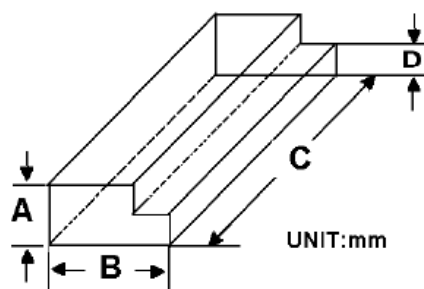
Temperature Derating Graph



Tolerance Envelope Graph



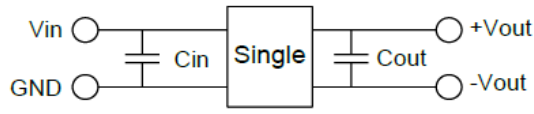
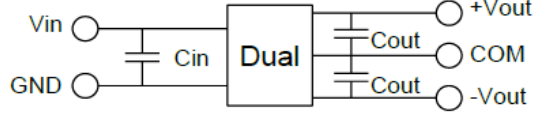
Packaging



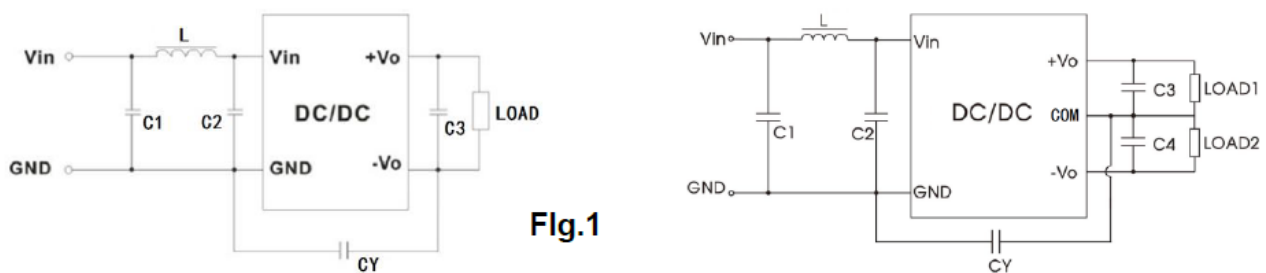
TUBE-----25pcs

Size(mm)			
A	B	C	D
9.5	16.5	522	5.0

Recommended Test Circuit

		Vin	Cin	Single Vout	Cout	Dual Vout	Cout
		5Vdc	4.7 μ F/25V	3.3Vdc	10 μ F/16V	$\pm$ 3.3Vdc	$\pm$ 4.7 μ F/16V
		12Vdc	2.2 μ F/25V	5Vdc	10 μ F/16V	$\pm$ 5Vdc	$\pm$ 4.7 μ F/16V
		15Vdc	2.2 μ F/25V	9Vdc	2.2 μ F/16V	$\pm$ 9Vdc	$\pm$ 1 μ F/16V
		24Vdc	1 μ F/50V	12Vdc	2.2 μ F/25V	$\pm$ 12Vdc	$\pm$ 1 μ F/25V
		--	--	15Vdc	1 μ F/25V	$\pm$ 15Vdc	$\pm$ 1 μ F/25V
		--	--	24Vdc	1 μ F/50V	$\pm$ 24Vdc	$\pm$ 1 μ F/50V

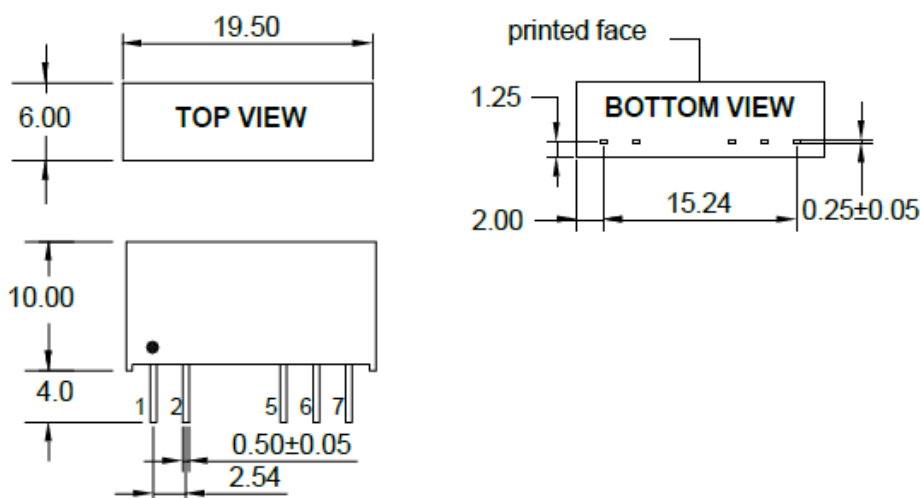
EMC (CLASS B) compliance circuit



EMC recommended circuit value table

EMI	C1	4.7 μ F /50V
	C2	4.7 μ F /50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8 μ H

Markings and Dimensions



UNIT:mm Unless otherwise specified,all tolerances are $\pm$ 0.25

PIN Connection

PIN	1	2	5	6	7
Single	+Vin	-Vin	-Vout	No Pin	+Vout
Dual	+Vin	-Vin	-Vout	Com	+Vout