



100W DC-DC Non-Isolated Regulated Converter

NID100 series



■ Features :

- Economical open frame design
- Wide input range
- High efficiency up to 97%
- Remote ON / OFF control
- Compact size 2.0"x1.082"x 0.472"(SIP package)
- Protections: Short circuit / Overload / Over voltage
- -30~+85°C wide working temperature
- Cooling by free air convection
- Comply to EN55032 ClassA without additional components
- Trimming output (optional)
- 3 years warranty

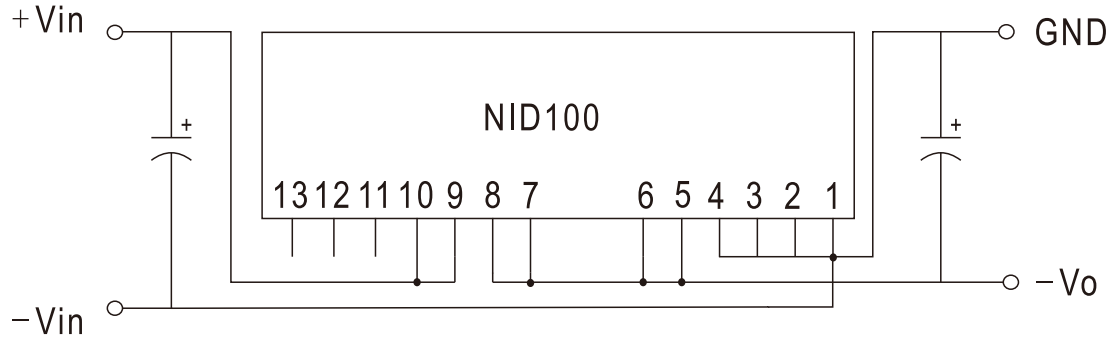
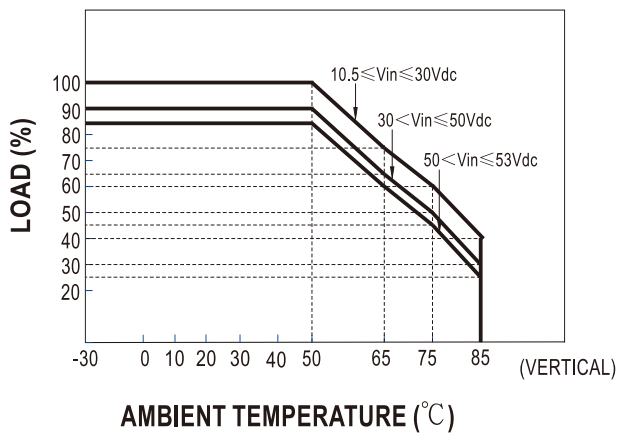
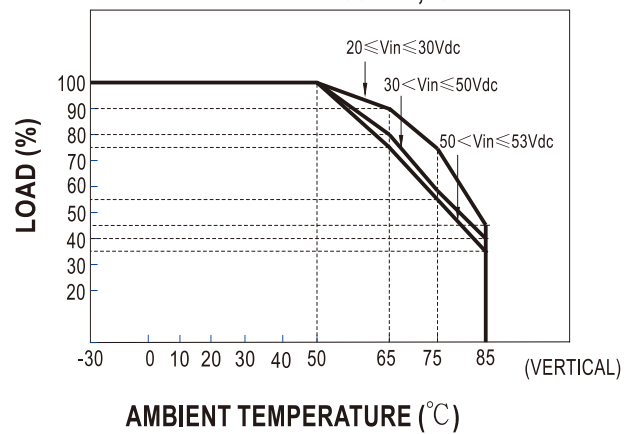
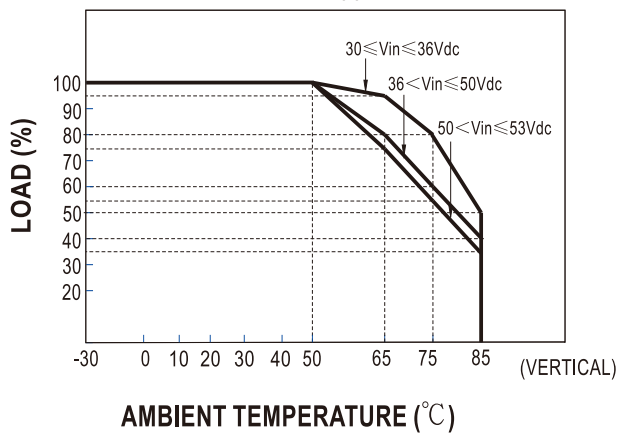


SPECIFICATION

ORDER NO.		NID100-5		NID100-12		NID100-15		NID100-24			
OUTPUT	DC VOLTAGE		5V		12V		15V		24V		
	RATED CURRENT		11A		7.5A		6.5A		4.2A		
	RATED POWER		55W		90W		97.5W		100.8W		
	RIPPLE & NOISE (max.) Note.2		100mVp-p		120mVp-p		150mVp-p		200mVp-p		
	LINE REGULATION Note.3		±0.5%		±0.5%		±0.5%		±0.5%		
	LOAD REGULATION Note.4		±0.5%		±0.5%		±0.5%		±0.5%		
	VOLTAGE TOLERANCE		±2.0%		±2.0%		±2.0%		±2.0%		
	SWITCHING FREQUENCY (Typ.)		200KHz								
INPUT	EXTERNAL CAPACITANCE LOAD (max.)		100uF/16V low ESR		68uf/25V low ESR		47uf/50V low ESR		47uf/50V low ESR		
	VOLTAGE RANGE		10.5 ~ 53VDC		20 ~ 53VDC		20 ~ 53VDC		30 ~ 53VDC		
	NORMAL VOLTAGE		24VDC (or 48VDC)		24VDC (or 48VDC)		24VDC (or 48VDC)		48VDC		
	EFFICIENCY (Typ.)	24Vin	93% (12/24VDC)		96%		97%		-----		
		48Vin	92%		95%		95%		96%		
	DC CURRENT	Full load	5400mA/12VDC		4500mA/24VDC		4600mA/24VDC		2300mA/48VDC		
		No load	20mA		30mA		30mA		50mA		
PROTECTION			Fuse recommended (8A)								
PROTECTION	OVERLOAD (Typ.)		120 ~ 300% rated output power								
			Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	OVER VOLTAGE		6.4 ~ 7.5V		15.6~ 18V		17.5~ 21V		28~ 33V		
			Protection type : Shut off o/p voltage, clamp by TVS diode								
	SHORT CIRCUIT		All output equipped with short circuit								
Protection type : Hiccup mode, recovers automatically after fault condition is removed											
FUNCTION	REMOTE CONTROL		Power on : 1.2VDC < R.C ~ com < 12VDC or open circuit ; power off : R.C ~ com < 0.4VDC or short circuit (PIN5,6,7,8 & PIN13)								
ENVIRONMENT	SAFETY STANDARDS		EAC TP TC 004 approved								
	WORKING TEMP.		-30 ~ +85℃ (Refer to "Derating Curve")								
	WORKING HUMIDITY		20% ~ 85% RH non-condensing								
	STORAGE TEMP.		-30 ~ +105℃								
	TEMP. COEFFICIENT		±0.03% / °C (0 ~ 50℃)								
	VIBRATION		10 ~ 500Hz, 2G 10min./1 cycle, period for 60min, each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARD		EN62368-1(LVD)								
	EMC EMISSION		Parameter		Standard		Test Level / Note				
			Conducted		EN55032		Class A without external components,Class B with external components				
			Radiated		EN55032		Class A without external components,Class B with external components				
	EMC IMMUNITY		Parameter		Standard		Test Level / Note				
			Radiated		EN61000-4-3		Level 2, 3V/m ; criteria A				
			EFT / Burst		EN61000-4-4		Level 2, 1KV ; criteria A				
			Surge		EN61000-4-5		Level 2, 1KV/Line-Line,criteria A				
Conducted			EN61000-4-6		Level 2, 3V ; criteria A						
OTHERS	DIMENSION		50.8*27.5*12mm or 2.0**1.082**0.472" inch (L*W*H)								
	WEIGHT		35g;280psc/10.8Kg/0.97CUFT								
NOTE	1.All parameters are specified at normal input, rated load, 25℃ 70% RH Ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf & 47uf capacitor. 3.Line regulation is measured from low line to high line at rated load. 4.Load regulation is measured from 10% to 100% rated load.										

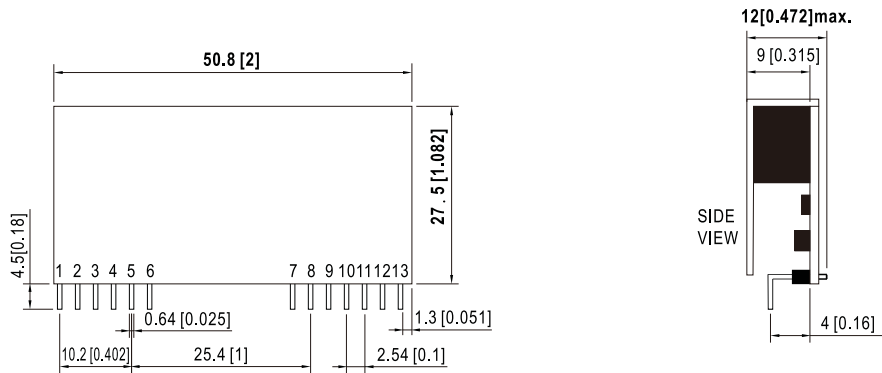
Connection diagram to obtain negative output voltage

Note: input voltage must be $< 30\text{VDC}$.


Derating Curve
NID100-5V

NID100-12V,15V

NID100-24V


Mechanical Specification

Unit:mm(inch)

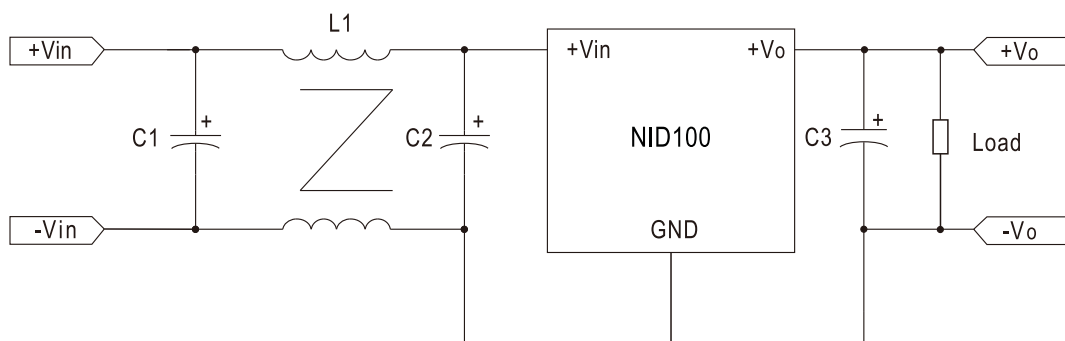


Pin Configuration

Pin No.	Pin_Out
1,2,3,4	+Vout
5,6,7,8	Com
9,10	+Vin
11	N.C.
12	Trim(optional)
13	R.C.

EMC Suggestion Circuit

※Comply to EN55032 Class A without additional componenets ,required external componenets to meet Class B emissison are as below:



C1/C2	L1	C3
120 μ F/63V	15 μ H(NiZn)	22 μ F/35V