



**15W Open Frame type DC to Dc power supply > NSD15-S**

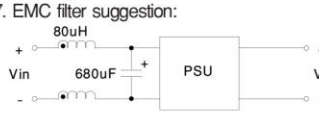


■ Features :

- Wide 4:1 DC input range
- Protections: Short circuit / Overload / Over voltage
- 1500VDC I/O isolation
- Built-in EMI filter
- Cooling by free air convection
- Output voltage trimming function
- Built-in remote ON-OFF control
- 100% full load burn-in test
- Low cost
- High reliability
- 2 years warranty



**SPECIFICATION**

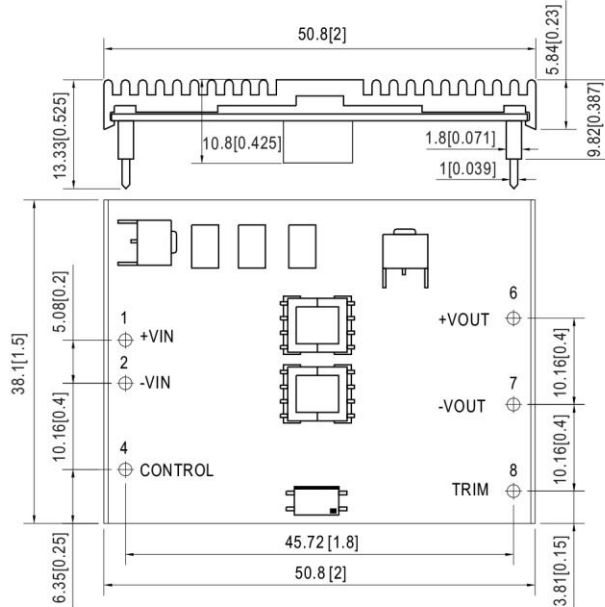
MODEL	NSD15-12S3	NSD15-12S5	NSD15-12S12	NSD15-12S15	NSD15-48S3	NSD15-48S5	NSD15-48S12	NSD15-48S15		
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	3.3V	5V	12V	15V	
	RATED CURRENT	3.75A	3A	1.25A	1A	3.75A	3A	1.25A	1A	
	CURRENT RANGE	0.18 ~ 3.75A	0.15 ~ 3A	0.06 ~ 1.25A	0.05 ~ 1A	0.18 ~ 3.75A	0.15 ~ 3A	0.06 ~ 1.25A	0.05 ~ 1A	
	RATED POWER	12.375W	15W	15W	15W	12.375W	15W	15W	15W	
	CAPACITIVE LOAD (max.)	3300uF								
	RIPPLE & NOISE (max.) Note.2	100mVp-p(25% ~ 100% load) for 3.3V only				75mVp-p(25% ~ 100% load)				
	VOLTAGE TOLERANCE Note.3	± 2.0%								
	LINE REGULATION	± 1.0% at 10% ~ 100% load								
	LOAD REGULATION	± 1.0% at 10% ~ 100% load								
	TRIM OUTPUT (Typ.)	+10%	± 5.0%	± 5.0%	± 3.0%	+10%	± 5.0%	± 5.0%	± 3.0%	
SETUP TIME	100ms/RATED DC INPUT at full Load									
INPUT	RATED DC INPUT	12VDC				48VDC				
	VOLTAGE RANGE	9.4 ~ 36VDC				18 ~ 72VDC				
	EFFICIENCY (Typ.)	73%	77%	81%	81%	77%	81%	84%	85%	
	DC CURRENT	1.8A/12VDC				0.4A/48VDC				
	SHUTDOWN IDLE CURRENT	20mA								
PROTECTION	OVERLOAD	Above 105% rated output power Protection type : Over power limiting, recovers automatically after fault condition is removed								
	OVER VOLTAGE(CLAMP)	5.8 ~ 6.93V	5.8 ~ 7.5V	13.8 ~ 18V	17.25 ~ 22.5V	5.61 ~ 6.93V	5.5 ~ 7.5V	13.8 ~ 18V	17.25 ~ 22.5V	
	SHORT CIRCUIT Note.4	Recovers automatically after fault condition is removed								
FUNCTION	ON/OFF CONTROL	Logic "1" or open circuit : ON				Logic "0" or short to PIN2 : OFF				
ENVIRONMENT	WORKING TEMP.	-25 ~ +70°C								
	WORKING HUMIDITY	0% ~ 95% RH max.								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 0 ~ 95% RH								
	TEMP. COEFFICIENT	± 0.03%/°C (0~50°C)								
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL62368-1, EAC TP TC 004 approved, Design refer to TUV EN62368-1								
	ISOLATION VOLTAGE	I/P-O/P:1.5KVDC								
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH								
	EMC EMISSION	Compliance to EN55032 (CISPR32) Class B, EAC TP TC 020								
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,6,8; EN55024, light industry level, criteria A, EAC TP TC 020								
OTHERS	MTBF	1734K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	50.8*38.1*9.82mm (2"*1.5"*0.387") (L*W*H)								
	PACKING	0.03Kg; 180pcs/6.4Kg/0.94CUFT								
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 12, 48VDC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF &amp; 47uF parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Short circuit no more than 60 seconds.</li> <li>The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 230mm*230mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."</li> <li>Derating to 80% load is needed for NSD15-48S series at 18Vdc input voltage. Full output wattage can be acquired when the input voltage is higher than 20Vdc.</li> <li>EMC filter suggestion:   </li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> </ol>									



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**Mechanical Specification**

Unit:mm[inch]

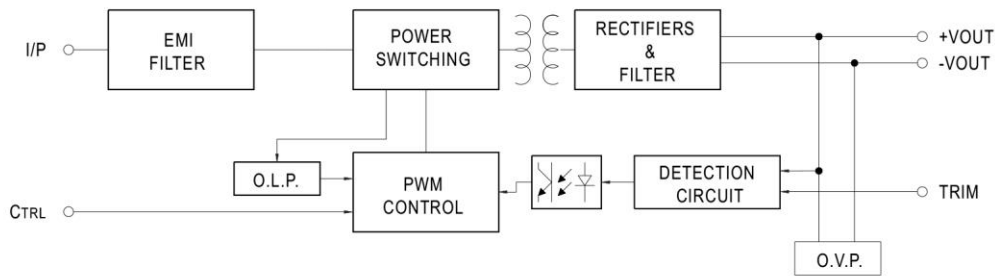


Pin No. Assignment

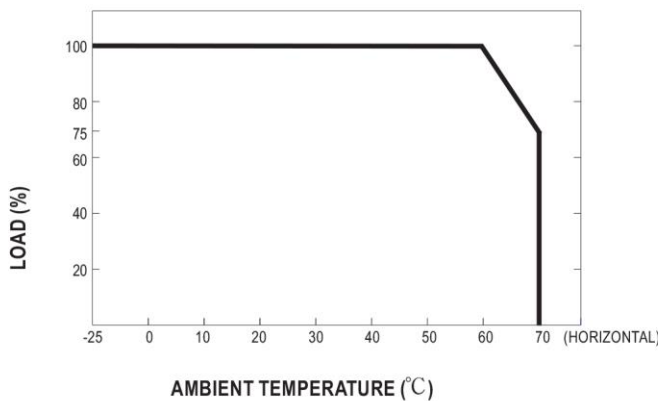
Pin No.	Assignment	Pin No.	Assignment
1	+VIN	6	+VOUT
2	-VIN	7	-VOUT
3,5	No Pin	8	TRIM
4	CONTROL		

**Block Diagram**

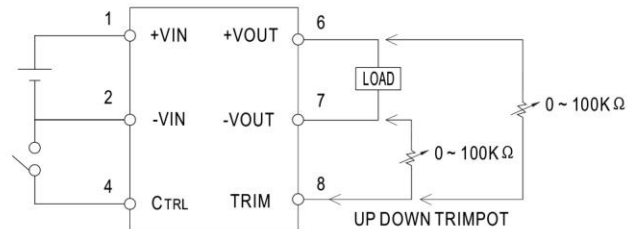
fosc : 400KHz



**Derating Curve**



**ON/OFF Control & Output Trim**



CONTROL INPUT.....PIN4  
 CONTROL COMMON.....PIN2  
 LOGIC COMPATIBILITY.....CMOS OR OPEN COLLECTOR TTL  
 CONTROL VOLTAGE  
 ON.....+5.5VDC min OR OPEN CIRCUIT  
 OFF.....+2.5VDC max. OR SHORT TO PIN2