

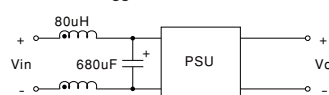


#### Features :

- 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

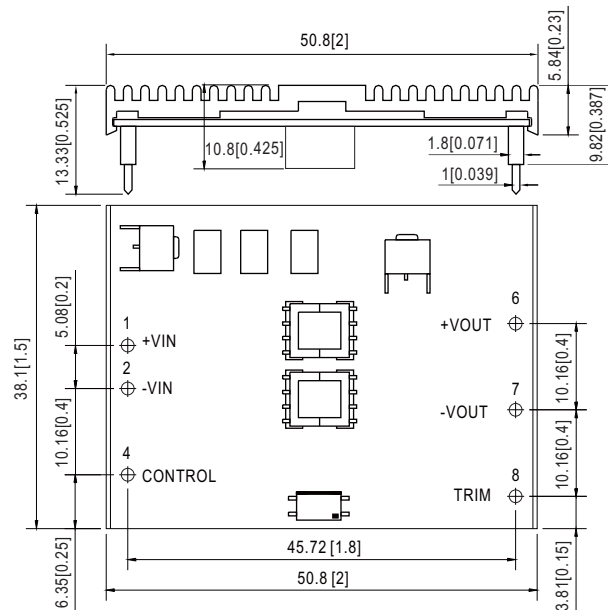


#### SPECIFICATION

| 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<br>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<br>(Note 5) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | UL60950-1 approved, Design refer to TUV EN60950-1                                                                               |            |              |               |                          |            |              |               |
|                          | 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 EN55022 (CISPR22) Class B                                                                                         |            |              |               |                          |            |              |               |
|                          | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance to EN61000-4-2,3,4,6,8; EN55024, light industry level, criteria A                                                    |            |              |               |                          |            |              |               |
| 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/0.97CUFT                                                                                                   |            |              |               |                          |            |              |               |
| NOTE                     | <p>1. All parameters NOT specially mentioned are measured at 12, 48VDC input, rated load and 25°C of ambient temperature.</p> <p>2. 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.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Short circuit no more than 60 seconds.</p> <p>5. 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." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>6. 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.</p> <p>7. EMC filter suggestion:</p> <div></div> |                                                                                                                                 |            |              |               |                          |            |              |               |

## Mechanical Specification

Unit:mm[inch]

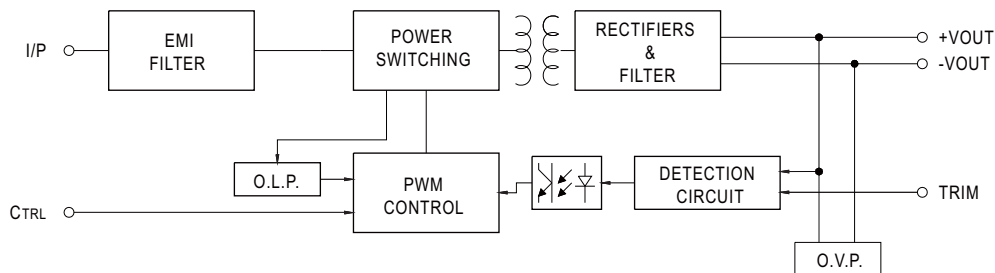


Pin No. Assignment

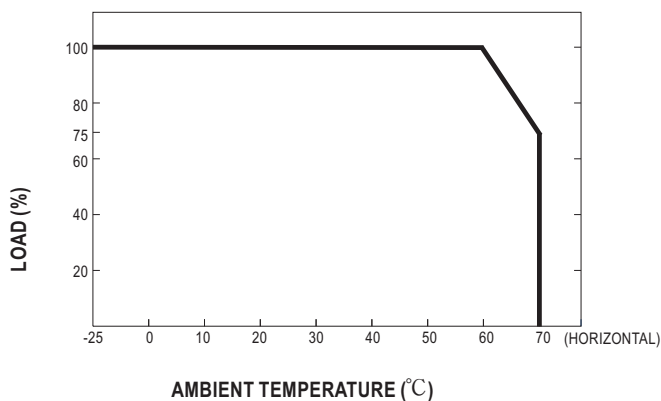
| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1       | +VIN       | 6       | +VOUT      |
| 2       | -VIN       | 7       | -VOUT      |
| 3,5     | No Pin     | 8       | TRIM       |
| 4       | CONTROL    |         |            |

## Block Diagram

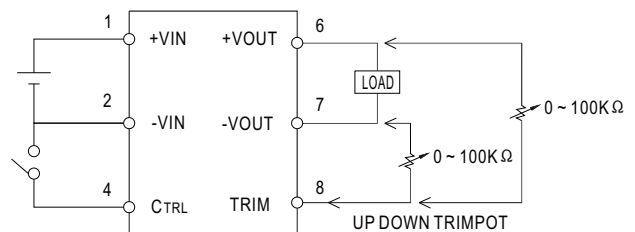
fosc : 400KHz



## 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