



■ 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
- Lost cost
- High reliability
- 2 years warranty

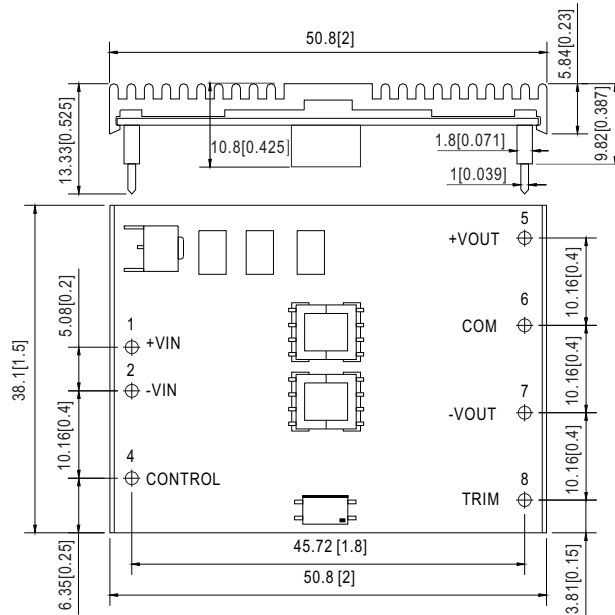


SPECIFICATION

| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NSD15-12D5                                                                                                                      |             | NSD15-12D12  |              | NSD15-12D15  |                | NSD15-48D5                       |             | NSD15-48D12  |              | NSD15-48D15  |                |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|--------------|--------------|----------------|----------------------------------|-------------|--------------|--------------|--------------|----------------|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 5V                                                                                                                              | -5V         | 12V          | -12V         | 15V          | -15V           | 5V                               | -5V         | 12V          | -12V         | 15V          | -15V           |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5A                                                                                                                            | 1.5A        | 0.62A        | 0.62A        | 0.5A         | 0.5A           | 1.5A                             | 1.5A        | 0.62A        | 0.62A        | 0.5A         | 0.5A           |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.07 ~ 1.5A                                                                                                                     | 0.07 ~ 1.5A | 0.03 ~ 0.62A | 0.03 ~ 0.62A | 0.02 ~ 0.5A  | 0.02 ~ 0.5A    | 0.07 ~ 1.5A                      | 0.07 ~ 1.5A | 0.03 ~ 0.62A | 0.03 ~ 0.62A | 0.02 ~ 0.5A  | 0.02 ~ 0.5A    |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15W                                                                                                                             |             | 14.88W       |              | 15W          |                | 15W                              |             | 14.88W       |              | 15W          |                |
|                       | CAPACITIVE LOAD (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ± 1000uF                                                                                                                        |             |              |              |              |                |                                  |             |              |              |              |                |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100mVp-p(25% ~ 100% load)                                                                                                       |             |              |              |              |                |                                  |             |              |              |              |                |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ± 3.0%                                                                                                                          |             | ± 2.5%       |              | ± 2.5%       |                | ± 3.0%                           |             | ± 2.5%       |              | ± 2.5%       |                |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 1.0% at 10% ~ 100% load                                                                                                       |             |              |              |              |                |                                  |             |              |              |              |                |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ± 2.0%                                                                                                                          |             | ± 1.0%       |              | ± 1.0%       |                | ± 2.0%                           |             | ± 1.0%       |              | ± 1.0%       |                |
|                       | TRIM OUTPUT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ± 5.0%                                                                                                                          |             | ± 5.0%       |              | ± 3.0%       |                | ± 5.0%                           |             | ± 5.0%       |              | ± 3.0%       |                |
| SETUP TIME            | 100ms/RATED DC INPUT at full Load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                 |             |              |              |              |                |                                  |             |              |              |              |                |
| INPUT                 | RATED DC INPUT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12VDC                                                                                                                           |             |              |              |              |                | 48VDC                            |             |              |              |              |                |
|                       | VOLTAGE RANGE Note.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9.4 ~ 36VDC                                                                                                                     |             |              |              |              |                | 18 ~ 72VDC                       |             |              |              |              |                |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 76%                                                                                                                             |             | 80%          |              | 80%          |                | 80%                              |             | 84%          |              | 84%          |                |
|                       | 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 7.25 ~ 9V                                                                                                                       | -7.25 ~ -9V | 13.8 ~ 18V   | -13.8 ~ -18V | 17.3 ~ 22.5V | -17.3 ~ -22.5V | 7.25 ~ 9V                        | -7.25 ~ -9V | 13.8 ~ 18V   | -13.8 ~ -18V | 17.3 ~ 22.5V | -17.3 ~ -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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1673.1K 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 NSD15-48D 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> |                                                                                                                                 |             |              |              |              |                |                                  |             |              |              |              |                |

## Mechanical Specification

Unit:mm[inch]

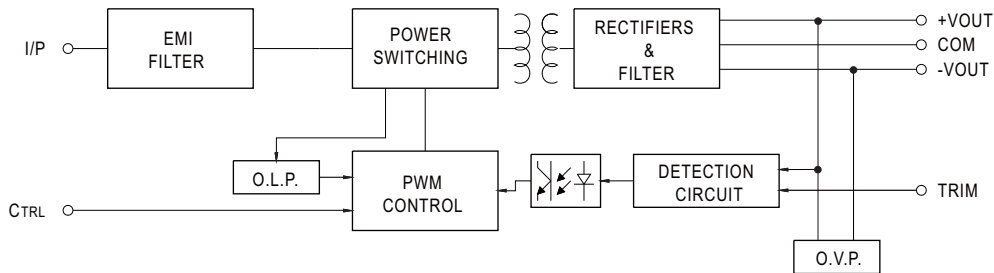


Pin No. Assignment

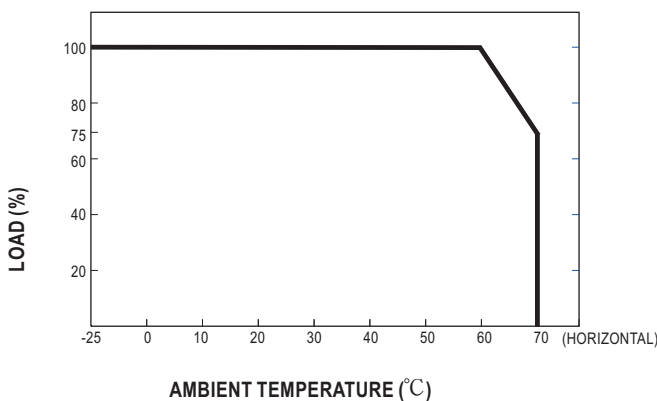
| Pin No. | Assignment | Pin No. | Assignment |
|---------|------------|---------|------------|
| 1       | +VIN       | 5       | +VOUT      |
| 2       | -VIN       | 6       | COMMON     |
| 3       | No Pin     | 7       | -VOUT      |
| 4       | CONTROL    | 8       | TRIM       |

## Block Diagram

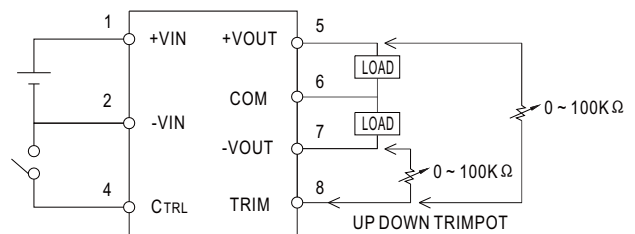
fosc : 400KHz



## 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