

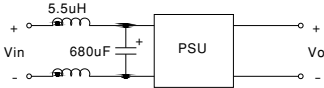


#### ■ Features :

- Wide 4:1 DC input range
- Protections: Short circuit / Overload / Over voltage
- 1000VDC I/O isolation
- Cooling by free air convection
- Built-in remote ON-OFF control
- 100% full load burn-in test
- Low cost
- High reliability
- 2 years warranty

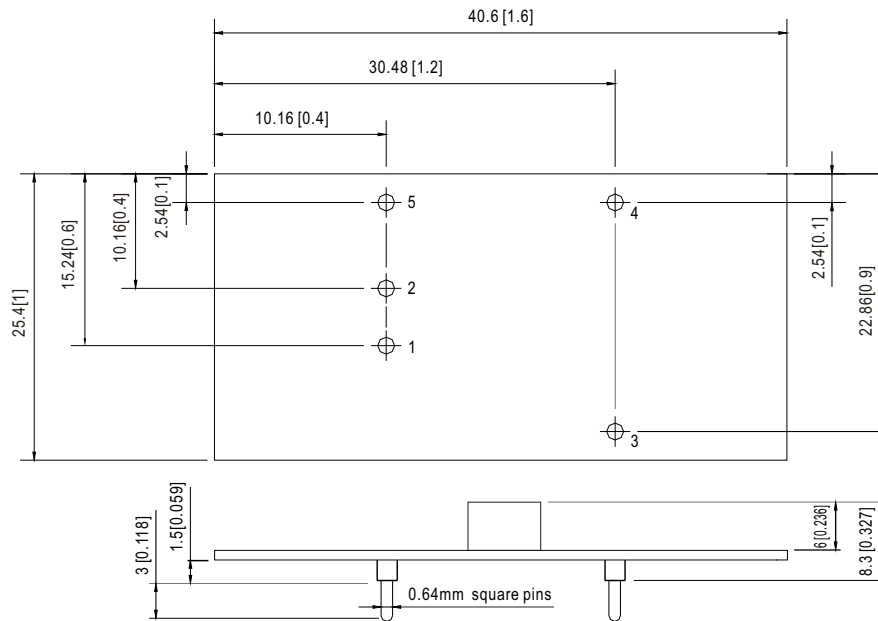
CBCE

#### SPECIFICATION

| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NSD05-12S3                                                                                                                      | NSD05-12S5 | NSD05-12S12  | NSD05-12S15  | NSD05-48S3 | NSD05-48S5 | NSD05-48S12  | NSD05-48S15  |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------|--------------|--------------|------------|------------|--------------|--------------|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.3V                                                                                                                            | 5V         | 12V          | 15V          | 3.3V       | 5V         | 12V          | 15V          |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.2A                                                                                                                            | 1A         | 0.42A        | 0.33A        | 1.2A       | 1A         | 0.42A        | 0.33A        |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0 ~ 1.2A                                                                                                                        | 0 ~ 1A     | 0 ~ 0.42A    | 0 ~ 0.33A    | 0 ~ 1.2A   | 0 ~ 1A     | 0 ~ 0.42A    | 0 ~ 0.33A    |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3.96W                                                                                                                           | 5W         | 5.04W        | 4.95W        | 3.96W      | 5W         | 5.04W        | 4.95W        |
|                       | CAPACITIVE LOAD (max.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1000uF                                                                                                                          | 1000uF     | 120uF        | 120uF        | 1000uF     | 1000uF     | 120uF        | 120uF        |
|                       | RIPPLE & NOISE (max.) Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 75mVp-p                                                                                                                         |            |              |              |            |            |              |              |
|                       | VOLTAGE TOLERANCE Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ±2.0% max.                                                                                                                      |            |              |              |            |            |              |              |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±1.0%                                                                                                                           |            |              |              |            |            |              |              |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ±2.0%                                                                                                                           | ±1.0%      | ±1.0%        | ±1.0%        | ±2.0%      | ±1.0%      | ±1.0%        | ±1.0%        |
| INPUT                 | SETUP TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 80ms/RATED DC INPUT at full Load                                                                                                |            |              |              |            |            |              |              |
|                       | RATED DC INPUT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12VDC                                                                                                                           |            |              |              |            | 48VDC      |              |              |
|                       | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 9.2 ~ 36VDC                                                                                                                     |            |              |              |            | 18 ~ 72VDC |              |              |
|                       | EFFICIENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 72%                                                                                                                             | 76%        | 82%          | 83%          | 75%        | 78%        | 83%          | 85%          |
|                       | DC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7A/12VDC                                                                                                                      |            |              |              |            | 0.2A/48VDC |              |              |
| PROTECTION            | SHUTDOWN IDLE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5mA/12VDC                                                                                                                       |            |              |              |            | 5mA/48VDC  |              |              |
|                       | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Above 105% rated output power<br>Protection type : Over power limiting, recovers automatically after fault condition is removed |            |              |              |            |            |              |              |
|                       | OVER VOLTAGE(CLAMP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3.8 ~ 4.6V                                                                                                                      | 5.6 ~ 6.8V | 13.5 ~ 16.5V | 16.2 ~ 19.8V | 3.8 ~ 4.6V | 5.6 ~ 6.8V | 13.5 ~ 16.5V | 16.2 ~ 19.8V |
| FUNCTION              | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Recovers automatically after fault condition is removed                                                                         |            |              |              |            |            |              |              |
|                       | ON/OFF CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Logic "1" or open circuit : ON      Logic "0" or short to PIN2 : OFF                                                            |            |              |              |            |            |              |              |
| ENVIRONMENT           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -25 ~ +70℃                                                                                                                      |            |              |              |            |            |              |              |
|                       | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0% ~ 95% RH max.                                                                                                                |            |              |              |            |            |              |              |
|                       | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -40 ~ +85℃, 0 ~ 95% RH                                                                                                          |            |              |              |            |            |              |              |
|                       | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ±0.03%/℃ (0~60℃)                                                                                                                |            |              |              |            |            |              |              |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IEC60950-1 CB approved by TUV                                                                                                   |            |              |              |            |            |              |              |
|                       | ISOLATION VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I/P-O/P:1KVDC                                                                                                                   |            |              |              |            |            |              |              |
|                       | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH                                                                                       |            |              |              |            |            |              |              |
|                       | EMC EMISSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN55032 (CISPR32) Class B                                                                                         |            |              |              |            |            |              |              |
| OTHERS                | EMC IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance to EN61000-4-2,3,4,5,6,8; EN55024, light industry level, criteria A                                                  |            |              |              |            |            |              |              |
|                       | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 914.4K hrs min.      MIL-HDBK-217F (25℃)                                                                                        |            |              |              |            |            |              |              |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 40.6*25.4*8.3mm (1.6**1**0.327") (L*W*H)                                                                                        |            |              |              |            |            |              |              |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.007Kg; 700pcs/5.9Kg/0.97CUFT                                                                                                  |            |              |              |            |            |              |              |
| NOTE                  | <div>1. All parameters NOT specially mentioned are measured at 12, 48VDC input, rated load and 25℃ of ambient temperature.</div> <div>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.</div> <div>3. Tolerance : includes set up tolerance, line regulation and load regulation.</div> <div>4. 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>)</div> <div>5. To insure proper operation, a 47uF/100V electrolytic capacitor with Esr &lt;1Ω must be added to the input line.</div> <div>6.EMC filter suggestion(TBD):</div> <div></div> |                                                                                                                                 |            |              |              |            |            |              |              |

## Mechanical Specification

Unit:mm[inch]

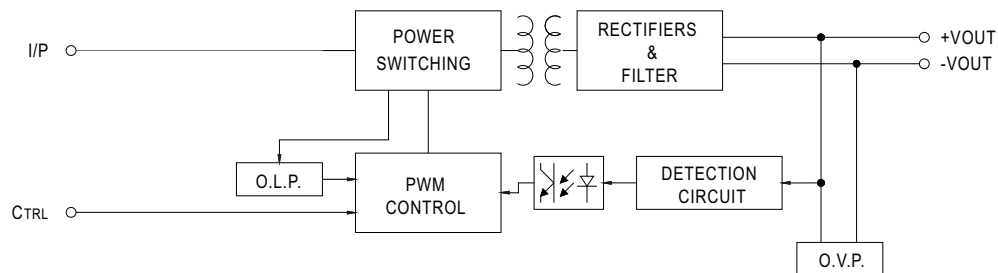


Pin No. Assignment

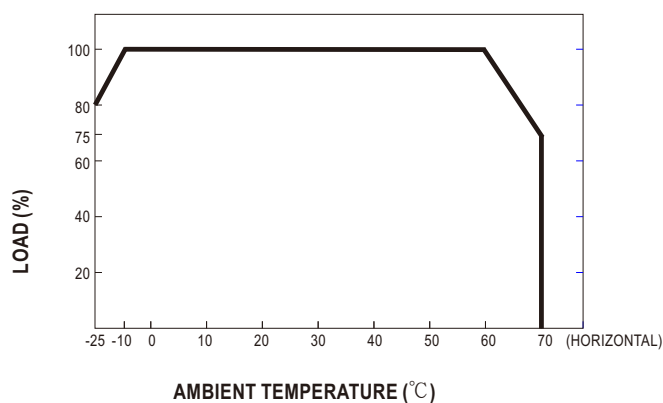
| Pin No. | Assignment  | Pin No. | Assignment |
|---------|-------------|---------|------------|
| 1       | +INPUT      | 4       | -VOUT      |
| 2       | -INPUT(GND) | 5       | CONTROL    |
| 3       | +VOUT       |         |            |

## Block Diagram

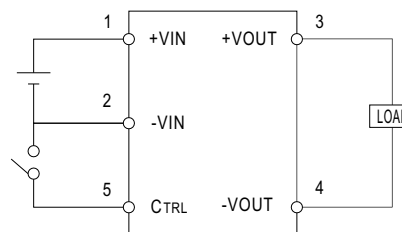
fosc : 350KHz



## Derating Curve



## ON/OFF Control



CONTROL INPUT.....PIN5  
 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