

■ Features

- SMD package with industry standard pinout
- Operating temperature range -40 ~ +100°C
- High efficiency up to 83%
- 3KVDC I/O isolation
- Low cost
- $\pm 3.3V_o$ models available
(Optional, Order No.: DETN01L-03N, DETN01M-03N, DETN01N-03N)
- 3 years warranty

■ Applications

- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

■ GTIN CODE

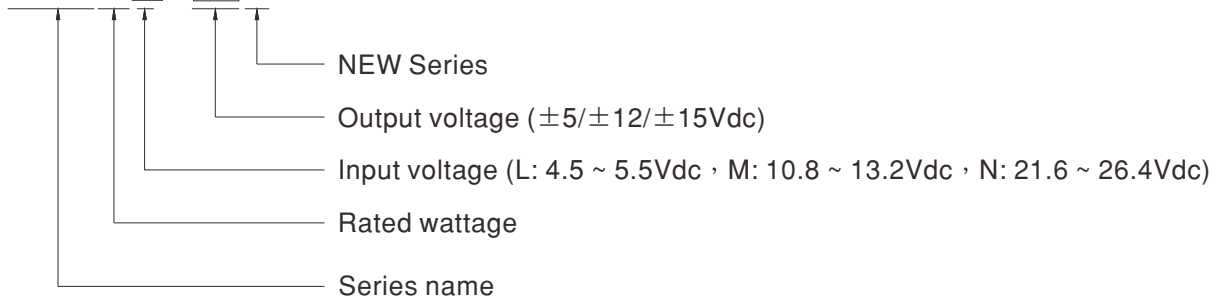
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

■ Description

DETN01-N series is 1W isolated and unregulated module type DC-DC converter with SMD package. It features international standard pins, a high efficiency up to 83%, wide working temperature range -40~+100°C, 3KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032. The models account for different input voltage 5V/12V/24V $\pm 10\%$, and various output voltage, $\pm 5V/\pm 12V/\pm 15V$ for Dual output which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

■ Model Encoding

DETN01L-12N



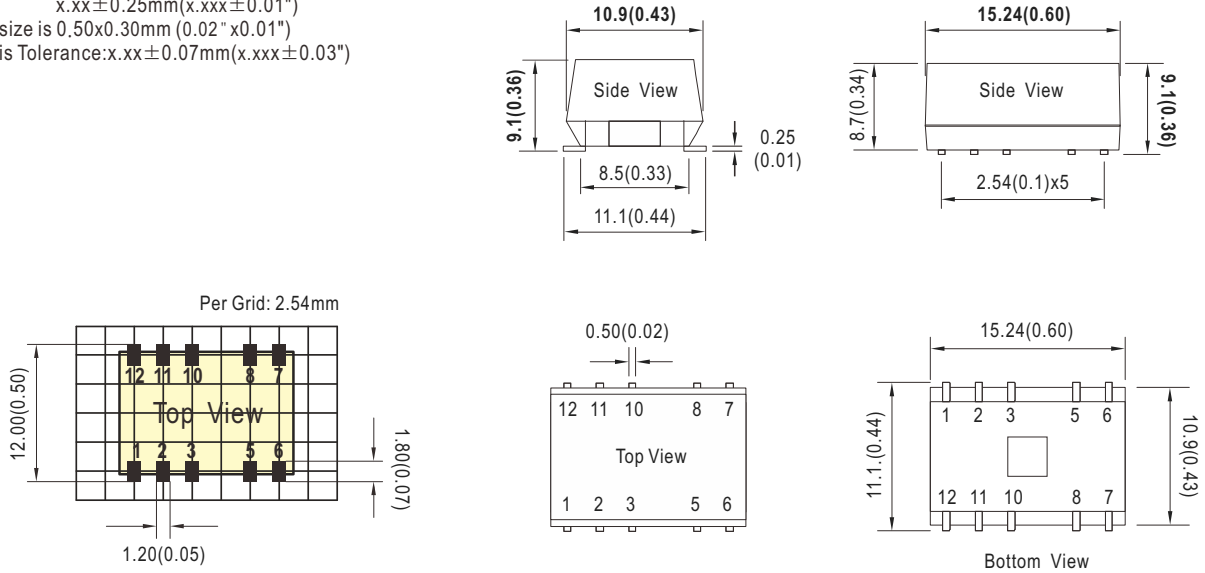


| MODEL SELECTION TABLE | | | | | | | |
|-----------------------|------------------------------|---------------|-----------|----------------|----------------|-------------------|-----------------------|
| ORDER NO. | INPUT | | | OUTPUT | | EFFICIENCY (TYP.) | CAPACITOR LOAD (MAX.) |
| | INPUT VOLTAGE (RANGE) | INPUT CURRENT | | OUTPUT VOLTAGE | OUTPUT CURRENT | | |
| | | NO LOAD | FULL LOAD | | | | |
| DETN01L-05N | Normal 5V (4.5 ~ 5.5V) | 30mA | 260mA | ±5V | ±10 ~ 100mA | 78% | ±470μF |
| DETN01L-12N | | 28mA | 257mA | ±12V | ±4.2 ~ 42mA | 80% | ±100μF |
| DETN01L-15N | | 28mA | 253mA | ±15V | ±3.4 ~ 34mA | 78% | ±100μF |
| DETN01M-05N | Normal 12V (10.8 ~ 13.2V) | 13mA | 107mA | ±5V | ±10 ~ 100mA | 75% | ±470μF |
| DETN01M-12N | | 12mA | 103mA | ±12V | ±4.2 ~ 42mA | 83% | ±100μF |
| DETN01M-15N | | 13mA | 102mA | ±15V | ±3.4 ~ 34mA | 79% | ±100μF |
| DETN01N-05N | Normal 24V (21.6 ~ 26.4V) | 11mA | 55mA | ±5V | ±10 ~ 100mA | 74% | ±470μF |
| DETN01N-12N | | 11mA | 55mA | ±12V | ±4.2 ~ 42mA | 82% | ±100μF |
| DETN01N-15N | | 11mA | 55mA | ±15V | ±3.4 ~ 34mA | 82% | ±100μF |

| SPECIFICATION | | | | |
|--|--|--|------------------------------|---|
| INPUT | VOLTAGE RANGE | L: 4.5 ~ 5.5Vdc M: 10.8 ~ 13.2Vdc N: 21.6 ~ 26.4Vdc | | |
| | FILTER | Internal capacitor | | |
| | PROTECTION | Fuse recommended. 5Vin models: 750mA Slow-Blow Type 12Vin models: 300mA Slow-Blow Type 24Vin models: 150mA Slow-Blow Type | | |
| | INTERNAL POWER DISSIPATION | 500mW | | |
| OUTPUT | VOLTAGE ACCURACY | ±5.0% | | |
| | RATED POWER | 1W | | |
| | RIPPLE & NOISE <small>Note.2</small> | 100mVp-p | | |
| | LINE REGULATION <small>Note.3</small> | 1.2% for 1% input variation | | |
| | LOAD REGULATION <small>Note.4</small> | ±8% | | |
| SWITCHING FREQUENCY (Typ.) | 90KHz | | | |
| PROTECTION | SHORT CIRCUIT | 0.5 second max. | | |
| ENVIRONMENT | COOLING | Free-air convection | | |
| | WORKING TEMP. | -40 ~ +100°C (Refer to "Derating Curve") | | |
| | CASE TEMPERATURE | +100°C max. | | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | | |
| | STORAGE TEMP., HUMIDITY | -55 ~ +125°C, 10 ~ 95% RH non-condensing | | |
| | TEMP. COEFFICIENT | 0.03% / °C (0 ~ 85°C) | | |
| | SOLDERING TEMPERATURE | 1.5mm from case of 1 ~ 10sec./240°C max. | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | |
| SAFETY & EMC <small>(Note.5,6)</small> | SAFETY STANDARDS | EAC TP TC 020/2011 approved | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVDC | | |
| | ISOLATION RESISTANCE | I/P-O/P:10G Ohms / 500VDC / 25°C / 70% RH | | |
| | ISOLATION CAPACITANCE (Typ.) | 75pF | | |
| | EMC EMISSION | Parameter | Standard | Test Level / Note(<small>Note.6</small>) |
| | | Conducted | BS EN/EN55032(CISPR32) | Class A/B with external components (see page 5) |
| | | Radiated | BS EN/EN55032(CISPR32) | |
| | EMC IMMUNITY | Parameter | Standard | Test Level / Note |
| | | ESD | BS EN/EN61000-4-2 | ±8KV air ; ±6KV contact, Criterion B |
| | | Radiated Susceptibility | BS EN/EN61000-4-3 | 3V/m, Criterion A |
| EFT/Burest | | BS EN/EN61000-4-4 | 1KV at power, Criterion B | |
| Surge | | BS EN/EN61000-4-5 | 0.5KV Line-Line, Criterion B | |
| Conducted | | BS EN/EN61000-4-6 | 3Vrms, Criterion A | |
| | Magnetic Field | BS EN/EN61000-4-8 | 1A/m, Criterion A | |
| OTHERS | MTBF | 1045Khrs min. MIL-HDBK-217F(25°C) | | |
| | DIMENSION (L*W*H) | 15.24*10.9*9.1mm (0.6*0.43*0.365 inch) | | |
| | CASE MATERIAL | Non-Conductive black plastic (UL 94V-0 rated) | | |
| | PACKING | 1.2g | | |
| NOTE | <p>1.All parameters are specified at normal input(L:5Vdc, M:12Vdc, N:24Vdc), rated load, 25°C 70% RH ambient.</p> <p>2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor.</p> <p>3.Line regulation is measured from low line to high line at rated load.</p> <p>4.Load regulation is measured from 10% to 100% rated load.</p> <p>5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on http://www.meanwell.com)</p> <p>6.An external input filter capacitor is required if the module has to meet BS EN/EN61000-4-4, BS EN/EN61000-4-5. The filter capacitor Power Mate suggest: 470µF/100V.</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p> | | | |

Mechanical Specification

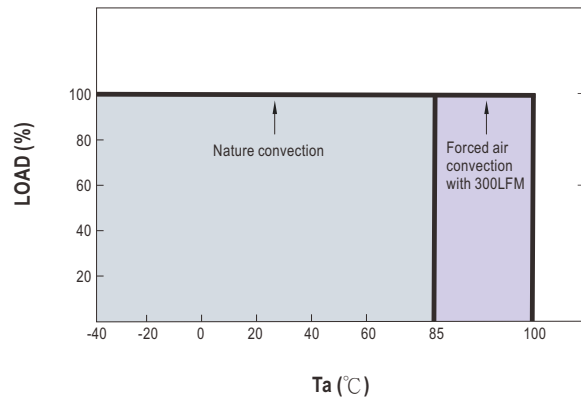
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02"$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.01"$)
- Pin size is $0.50 \times 0.30\text{mm}$ ($0.02" \times 0.01"$)
- Pin is Tolerance: $x.xx \pm 0.07\text{mm}$ ($x.xxx \pm 0.03"$)



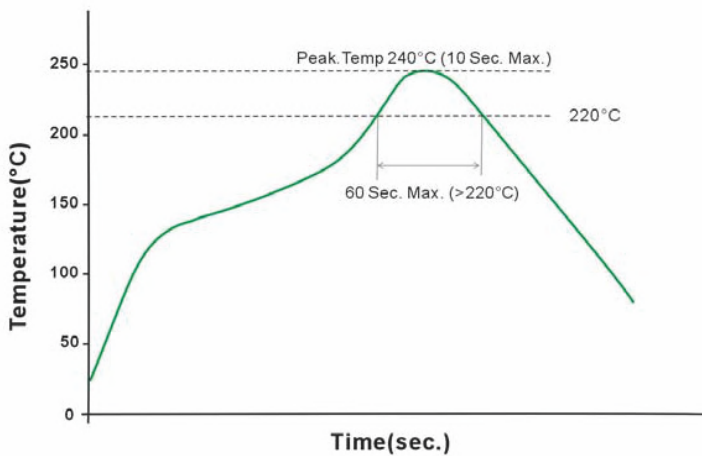
Plug Assignment

| Pin No. | Pin-Out |
|--------------|---------|
| 1 | -Vin |
| 2 | +Vin |
| 5 | Common |
| 6 | -Vout |
| 8 | +Vout |
| 3,7,10,11,12 | N.C. |

Derating Curve



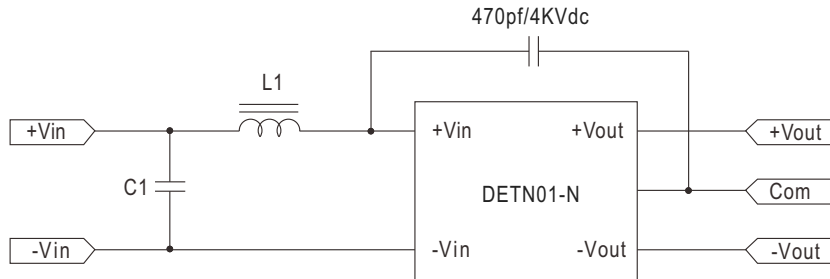
Reflow Soldering Curve



Remark: The curve applies only to the hot air reflow soldering.

EMC Suggestion Circuit

※Required external componets to meet BS EN/EN55032 Class A/B are as below:



| Model No. | Class A | | Class B | |
|-------------|-------------|-------------|-------------|-------------|
| | L1 | C1 | L1 | C1 |
| DETN01L-xxN | 2.2 μ H | 2.2 μ F | 10 μ H | 2.2 μ F |
| DETN01M-xxN | 6.8 μ H | 2.2 μ F | 22 μ H | 4.7 μ F |
| DETN01N-xxN | 47 μ H | 4.7 μ F | 100 μ H | 10 μ F |

Packing

| Standard Tube Packing | MPQ Per Tube (PCS) | One Box G.W. | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
|---|--------------------|--------------|------------------------|-----------------|
| <p>Unit : mm</p> <p>TUBE PATTERN</p> <p>CARTON L545 x W145 x H155</p> | 33 | 0.063Kg | 1188 | 2.7Kg |

Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>