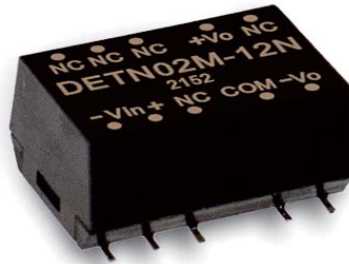




2W SMD Package DC-DC Unregulated Converter

DETN02-N series



■ Features

- SMD package with industry standard pinout
- Operating temperature range -40 ~ +85°C
- High efficiency up to 83%
- 3KVDC I/O isolation
- Low cost
- 3 years warranty

■ Applications

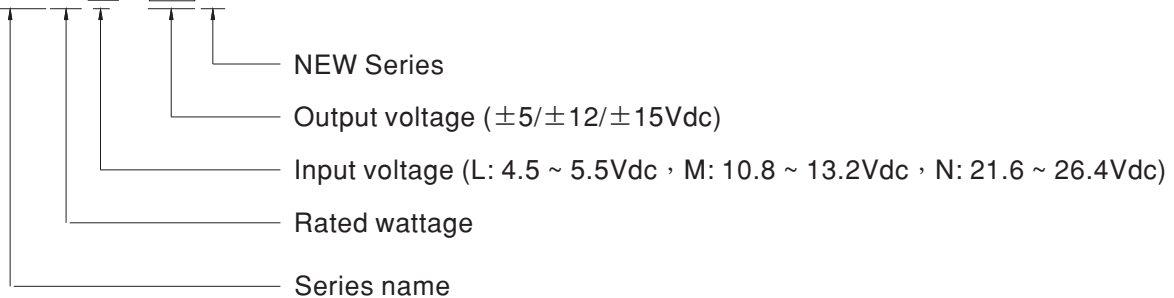
- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

■ Description

DETN02-N series is 2W 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~+85°C, 3KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032. The models account for different input voltage 5V/12V/24V±10%, and various output voltage, ±5V/±12V/±15Vfor Dual output which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

■ Model Encoding

DETN02 **L** - **12** **N**





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				
DETN02L-05N	Normal 5V (4.5 ~ 5.5V)	60mA	513mA	±5V	±20 ~ 200mA	81%	±680μF
DETN02L-12N		60mA	500mA	±12V	±8 ~ 83mA	81%	±220μF
DETN02L-15N		60mA	494mA	±15V	±6 ~ 66mA	83%	±220μF
DETN02M-05N	Normal 12V (10.8 ~ 13.2V)	30mA	208mA	±5V	±20 ~ 200mA	82%	±680μF
DETN02M-12N		30mA	203mA	±12V	±8 ~ 83mA	80%	±220μF
DETN02M-15N		30mA	200mA	±15V	±6 ~ 66mA	81%	±220μF
DETN02N-05N	Normal 24V (21.6 ~ 26.4V)	15mA	107mA	±5V	±20 ~ 200mA	81%	±680μF
DETN02N-12N		15mA	104mA	±12V	±8 ~ 83mA	82%	±220μF
DETN02N-15N		15mA	104mA	±15V	±6 ~ 66mA	82%	±220μF

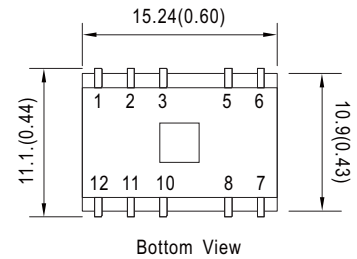
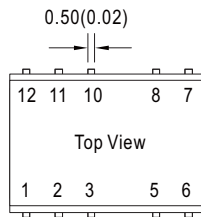
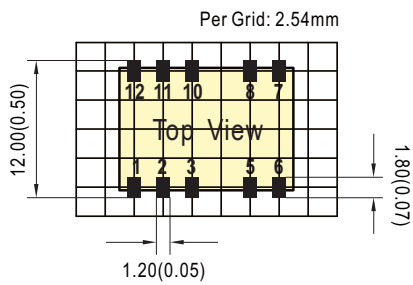
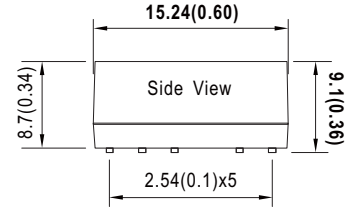
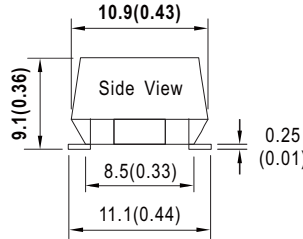


SPECIFICATION				
INPUT	VOLTAGE RANGE	L: 4.5 ~ 5.5Vdc M: 10.8 ~ 13.2Vdc N: 21.6 ~ 26.4Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 5Vin models: 800mA Slow-Blow Type 12Vin models: 300mA Slow-Blow Type 24Vin models: 170mA Slow-Blow Type		
	INTERNAL POWER DISSIPATION	500mW		
OUTPUT	VOLTAGE ACCURACY	±5.0%		
	RATED POWER	2W		
	RIPPLE & NOISE Note.2	150mVp-p		
	LINE REGULATION Note.3	1.2% for 1% input variation		
	LOAD REGULATION Note.4	±8%		
SWITCHING FREQUENCY (Typ.)	85KHz			
PROTECTION	SHORT CIRCUIT	0.5 second max.		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")		
	CASE TEMPERATURE	+90°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 ~ 90°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 (Note.5,6)	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.)	115pF		
	EMC EMISSION	Parameter	Standard	Test Level / Note(Note.6)
		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	886Khrs min. MIL-HDBK-217F(25°C)		
	DIMENSION (L*W*H)	15.24*10.9*9.1mm (0.6*0.43*0.36 inch)		
	CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
	PACKING	1.6g		
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

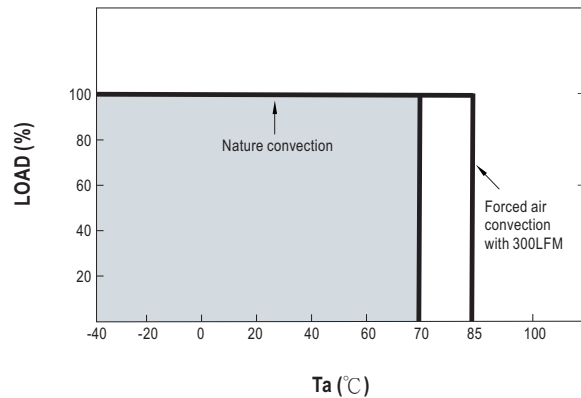
- All dimensions in mm (inch)
- Tolerance: $x.xx \pm 0.5\text{mm}$ ($x.xx \pm 0.02''$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.01''$)
- Pin size is $0.50 \times 0.30\text{mm}$ ($0.02'' \times 0.01''$)
- Pin is Tolerance: $x.xx \pm 0.07\text{mm}$ ($x.xxx \pm 0.03''$)



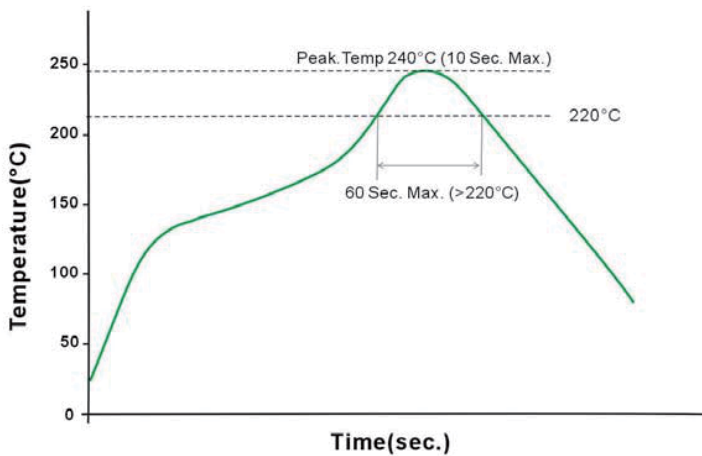
Plug Assignment

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

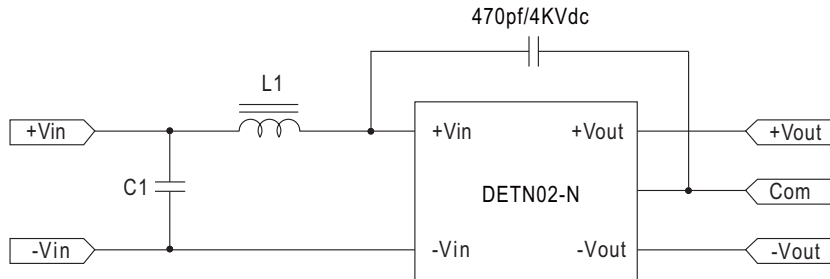


Remark: The curve applies only to the hot air reflow soldering.



■ 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
DETN02L-xxN	10 μ H	4.7 μ F	22 μ H	4.7 μ F
DETN02M-xxN	3.3 μ H	2.2 μ F	10 μ H	2.2 μ F
DETN02N-xxN	22 μ H	2.2 μ F	47 μ H	2.2 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	0.075Kg	1584	4Kg

■ Installation Manual

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