

■ Features

- Industrial standard SIP-4 package
- $\pm 10\%$ input range
- Operating temperature range $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$
- Comply to BS EN/EN55032 radiated Class B without additional components
- Low no load input current
- Efficiency up to 90%
- Protections: Short circuit (Continuous)
- 1500VDC I/O isolation
- 3 years warranty

■ Applications

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

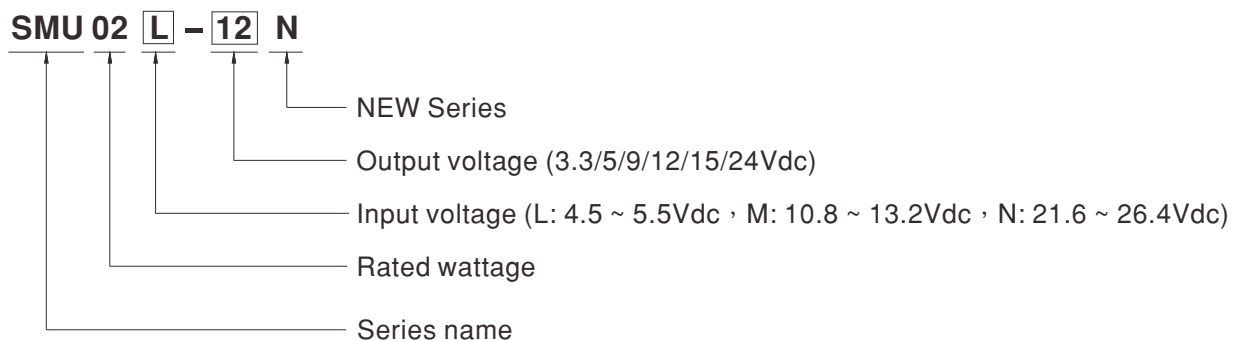
■ GTIN CODE

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

■ Description

SMU02-N series is an unregulated 2 Watt DC/DC converter in standard SIP-4 plastic package, with $\pm 10\%$ input voltage range. It features isolated voltage of 1500VDC, extremely low no load current, wide working temperature range from $-40 \sim +105^{\circ}\text{C}$, and suits all kinds of systems like industrial control, automation field, and so on.

■ Model Encoding





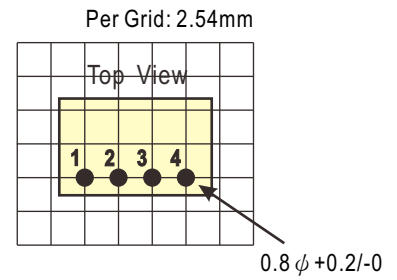
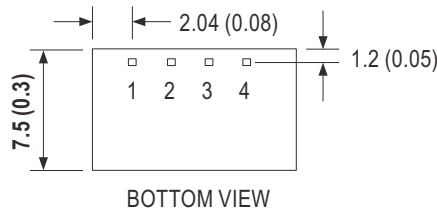
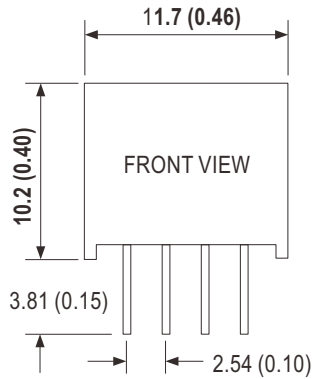
MODEL SELECTION TABLE							
ORDER NO.	INPUT			OUTPUT		EFFICIENCY (TYP.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
SMU02L-03N	5V (4.5 ~ 5.5V)	20mA	500mA	3.3V	600mA	81%	470μF
SMU02L-05N		20mA	470mA	5V	400mA	85%	470μF
SMU02L-09N		20mA	460mA	9V	222mA	87%	220μF
SMU02L-12N		20mA	445mA	12V	167mA	90%	220μF
SMU02L-15N		20mA	445mA	15V	133mA	90%	220μF
SMU02L-24N		25mA	455mA	24V	84mA	88%	100μF
SMU02M-03N	12V (10.8 ~ 13.2V)	8mA	206mA	3.3V	600mA	81%	470μF
SMU02M-05N		8mA	194mA	5V	400mA	86%	470μF
SMU02M-09N		8mA	189mA	9V	222mA	88%	220μF
SMU02M-12N		8mA	185mA	12V	167mA	90%	220μF
SMU02M-15N		8mA	187mA	15V	133mA	89%	220μF
SMU02M-24N		15mA	189mA	24V	84mA	88%	100μF
SMU02N-03N	24V (21.6 ~ 26.4V)	6mA	103mA	3.3V	600mA	81%	470μF
SMU02N-05N		6mA	97mA	5V	400mA	86%	470μF
SMU02N-09N		6mA	96mA	9V	222mA	87%	220μF
SMU02N-12N		6mA	96mA	12V	167mA	87%	220μF
SMU02N-15N		6mA	95mA	15V	133mA	88%	220μF
SMU02N-24N		8mA	95mA	24V	84mA	88%	100μF



SPECIFICATION				
INPUT	VOLTAGE RANGE	L: 4.5 ~ 5.5Vdc , M: 10.8 ~ 13.2Vdc , N: 21.6 ~ 26.4Vdc		
	SURGE VOLTAGE (100ms max.)	5Vin models : 9Vdc ; 12Vin models : 18Vdc ; 24Vin models : 30Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 5Vin models: 1000mA Slow-Blow Type, 12Vin models: 500mA Slow-Blow Type, 24Vin models: 300mA Slow-Blow Type		
OUTPUT	VOLTAGE ACCURACY	±3% max.		
	RATED POWER	2W		
	RIPPLE & NOISE Note.2	100mVp-p max.		
	LINE REGULATION Note.3	±1.5% for 1% input variation for 3.3V output, ±1.2% for 1% input variation for other output		
	LOAD REGULATION Note.4	8% for other output, 12% for 3.3V output		
	SWITCHING FREQUENCY (Typ.)	200KHz min.		
	MINIMUM LOAD	10% of full load		
PROTECTION	SHORT CIRCUIT	Continuous, automatic recovery		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +105°C (Refer to "Derating Curve")		
	CASE TEMPERATURE	+115°C max.		
	WORKING HUMIDITY	5% ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	±0.05% / °C		
	SOLDERING TEMPERATURE	1.5mm from case of 3 ~ 5sec./265°C max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.5)	SAFETY STANDARDS	EAC TP TC 020/2011 approved		
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH		
	ISOLATION CAPACITANCE (Typ.)	50pF		
	EMC EMISSION	Parameter	Standard	Test Level / Note(Note.6)
		Conducted	BS EN/EN55032(CISPR32)	N/A
		Radiated	BS EN/EN55032(CISPR32)	Class B without additional components
	EMC IMMUNITY	Parameter	Standard	Test Level / Note
		ESD	BS EN/EN61000-4-2	Level 3, 8KV air
		Radiated Susceptibility	BS EN/EN61000-4-3	Level 2, 3V/m
		EFT/Bursts	BS EN/EN61000-4-4	Level 1, 0.5KV
		Surge	BS EN/EN61000-4-5	Level 2, 0.5KV Line-Line
		Conducted	BS EN/EN61000-4-6	Level 2, 3Vrms
Magnetic Field		BS EN/EN61000-4-8	Level 1, 1A/m	
OTHERS	MTBF	2000Khrs min. MIL-HDBK-217F(25°C)		
	DIMENSION (L*W*H)	11.7*7.5*10.2mm (0.46*0.3*0.4 inch)		
	CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
	PACKING	1.3g ; 42pcs/per tube, 6720pcs/160 tube/per carton		
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: 220uF/100V.</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p>			

Mechanical Specification

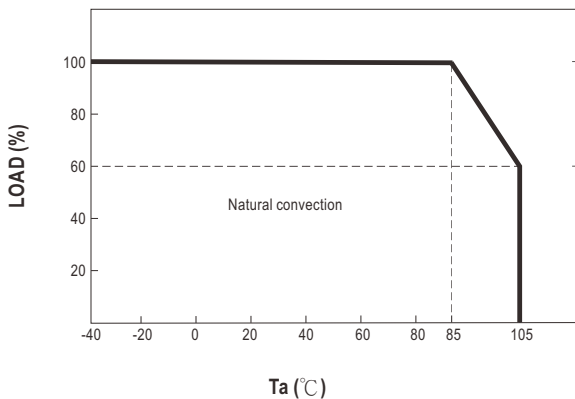
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02''$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.01''$)
- Pin size is $0.50 \times 0.30\text{mm}$ ($0.02'' \times 0.012''$)
- Pin is Tolerance: $x.xx \pm 0.05\text{mm}$ ($x.xxx \pm 0.002''$)



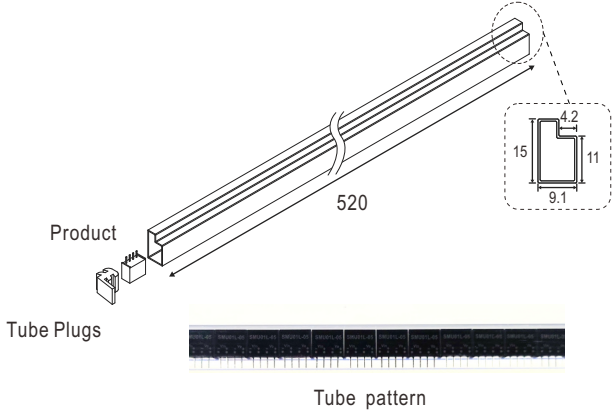
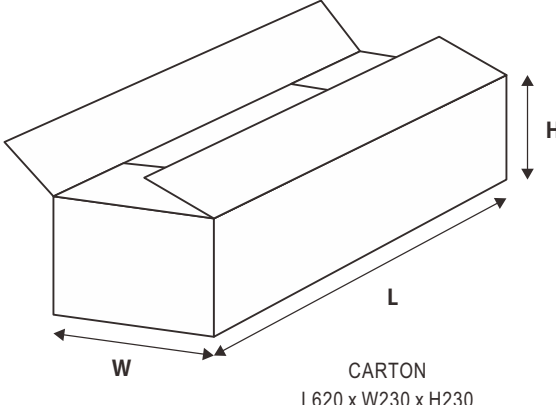
Plug Assignment

Pin No.	Pin-Out
1	-Vin
2	+Vin
3	-Vout
4	+Vout

Derating Curve



■ Packing

Standard Tube Packing	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
<p>Unit : mm</p>  	42	75g	6720	15.4Kg

■ Installation Manual

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