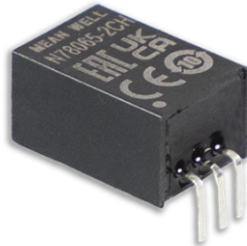
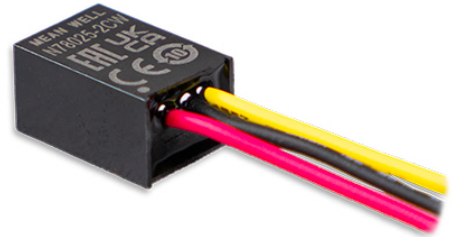


(C Type)



(CH Type)



(CW Type)



Features

- Compact size
- Pin-out compatible with LM78xx / LM79xx linear regulators
- High efficiency up to 96%, no heatsink required
- Wide input range up to 32V
- Support negative output
- Operating temperature range -40 ~ +85°C
- Comply to BS EN/EN55032 radiated Class B without additional components
- Protections: Short circuit / Overload / Over temperature
- Low ripple and noises
- 3 years warranty

Applications

- Voltage step down
- Power supplies
- Industrial PC
- Digital set-top boxes
- Data communications
- Microcontroller related applications
- Point of load regulator in distributed power system

GTIN CODE

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

Description

N78-2 series converters is high efficiency switching regulators can suit to replace LM78xx/LM79xx linear regulators and its pin-out can be compatible with LM78xx / LM79xx IC. One of the key features is the model can be chosen positive or negative output voltage according to the application. It also features high efficiency up to 96% meant low power loss, wide working temperature range of -40°C up to +85°C with no additional heat sink, compliance with EN55032 radiated Class B without external components, and so on.

Model Encoding

N 78 03 - 2 C

- C: With vertical mount
- CH: With Horizontal mount
- CW: Casing type with Wire

Output current (2A)

Output voltage (1.8V/±2.5V/±3.3V/±5V/±6.5V/±9V/±12V/±15V)

Series name

Non-isolated

MODEL SELECTION TABLE

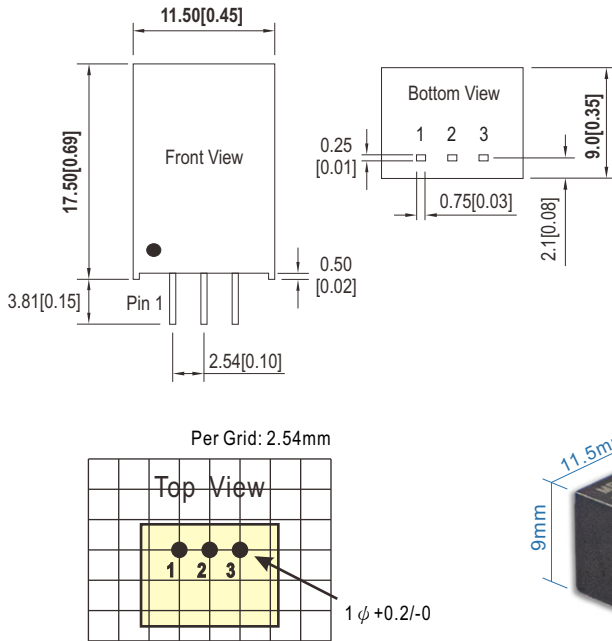
ORDER NO.	INPUT			OUTPUT		EFFICIENCY @Vin min. (NOTE 3.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE) (NOTE 2.)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
N78018-2□	12, 24V (4.5 ~ 28V)	1mA	964mA	1.8V	0 ~ 2000mA	83%	2000μF
N78025-2□	12, 24V (4.5 ~ 32V)	1mA	1248mA	2.5V	0 ~ 2000mA	88%	2000μF
	12, 24V (8 ~ 32V)	1mA	363mA	-2.5V	0 ~ 1000mA	86%	1000μF
N7803-2□	12, 24V (6 ~ 32V)	1mA	1279mA	3.3V	0 ~ 2000mA	89%	1800μF
	12, 24V (8 ~ 31V)	1mA	485mA	-3.3V	0 ~ -1000mA	85%	1000μF
N7805-2□	12, 24V (8 ~ 32V)	1mA	1344mA	5V	0 ~ 2000mA	92%	1000μF
	12, 24V (8 ~ 30V)	1mA	727mA	-5V	0 ~ -1000mA	86%	680μF
N78065-2□	12, 24V (10 ~ 32V)	1mA	1413mA	6.5V	0 ~ 2000mA	92%	1000μF
	12, 24V (8 ~ 29V)	1mA	956mA	-6.5V	0 ~ -1000mA	85%	680μF
N7809-2□	24V (13 ~ 32V)	1mA	1458mA	9V	0 ~ 2000mA	95%	680μF
	12, 24V (8 ~ 26V)	1mA	1047mA	-9V	0 ~ -800mA	86%	330μF
N7812-2□	24V (16 ~ 32V)	1mA	1563mA	12V	0 ~ 2000mA	96%	470μF
	12V (8 ~ 23V)	1mA	1035mA	-12V	0 ~ -600mA	87%	220μF
N7815-2□	24V (18 ~ 30V)	1mA	1739mA	15V	0 ~ 2000mA	96%	470μF
	12V (8 ~ 20V)	1mA	1293mA	-15V	0 ~ -600mA	87%	220μF

SPECIFICATION				
INPUT	VOLTAGE RANGE	32V max.(Please refer to page 2)		
	SURGE VOLTAGE (100ms max.)	36V max.		
	FILTER	Capacitor		
	PROTECTION	Fuse recommended. 3000mA Slow-Blow Type for all models		
	INTERNAL POWER DISSIPATION	1250mW		
OUTPUT	VOLTAGE ACCURACY	±3.0% max.		
	RATED POWER	3.6W ~ 30W		
	RIPPLE & NOISE Note.4	100mVp-p max.		
	LINE REGULATION Note.5	1.8 ~ 3.3V: ±0.5%	others: ±0.4%	
	LOAD REGULATION Note.6	1.8 ~ 3.3V: ±1.5%	others: ±1.0%	
	SWITCHING FREQUENCY (Typ.)	400KHz		
PROTECTION	SHORT CIRCUIT	Continuous, automatic recovery		
	OVERLOAD	150% ~ 300%		
		Protection type : recovers automatically after fault condition is removed		
	OVER TEMPERATURE	Protection type : shut down o/p voltage, automatic recovery		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +85℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+110℃ max.		
	WORKING HUMIDITY	5% ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / °C (0 ~ 60℃)		
	SOLDERING TEMPERATURE	1.5mm from case of 3 ~ 5sec./265℃ max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.7)	SAFETY STANDARDS	EAC TP TC 020/2011 approved		
	ISOLATION VOLTAGE	Non-Isolation		
	EMC EMISSION	Parameter	Standard	Test Level / Note
		Conducted	BS EN/EN55032(CISPR32)	N/A
		Radiated	BS EN/EN55032(CISPR32)	Class B
	EMC IMMUNITY	Parameter	Standard	Test Level / Note
		ESD	BS EN/EN61000-4-2	Level 3, ±8KV air discharge
		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 1, 0.5KV Line-Line
		Conducted	BS EN/EN61000-4-6	Level 2, 3Vrms
OTHERS	MTBF	1600Khrs MIL-HDBK-217F(25℃)		
	DIMENSION (L*W*H)	11.5mm*9.0mm*17.5mm		
	CASE MATERIAL	Non-Conductive plastic (UL 94V-0 rated)		
	PACKING	C type : 4g ; 42pcs/per tube, 3360pcs/80 tube/per carton CH type : 4g ; 150pcs/Box, 1800pcs/12 Box/per carton CW type : 5.5g ; 70pcs/Box, 840pcs/12 Box/per carton		
NOTE	1.All parameters are specified at normal input, rated load, 25℃ 70% RH ambient. 2.For input voltages higher than 30VDC, an input capacitor (22μF/50V) is required. 3.Efficiency and input current are measured at minimum input voltage and full load. 4.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor. 5.Line regulation is measured from low line to high line at rated load. 6.Load regulation is measured from 10% to 100% rated load. 7.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) ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx			

Mechanical Specification

- All dimensions in mm(inch)
- Tolerance: x.x or x.xx $\pm$ 0.5mm(x.x or x.xx $\pm$ 0.01")
- Pin size is: 0.75*0.25 $\pm$ 0.1mm ($\pm$ 0.003")

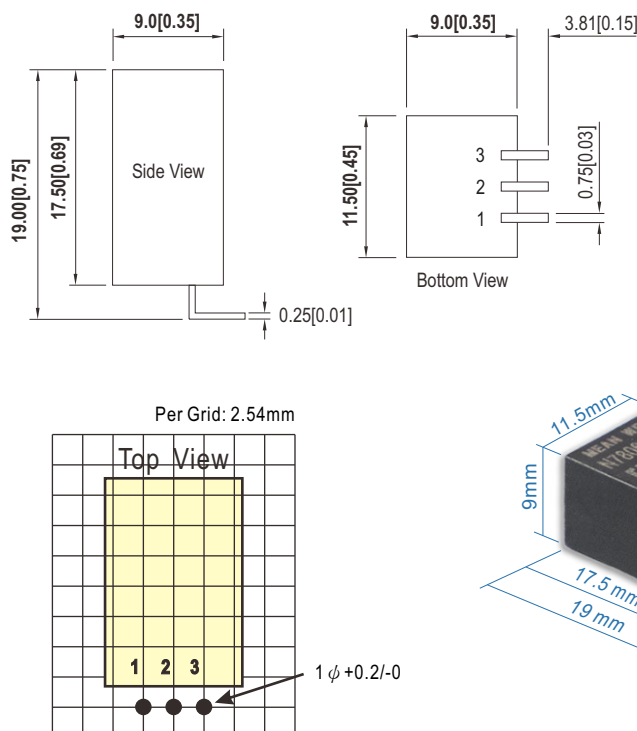
※ C Type:



Plug Assignment

Pin-Out		
Pin No.	N78xx - 2C	
	+Output	-Output
1	+Vin	+Vin
2	GND	-Vout
3	+Vout	GND

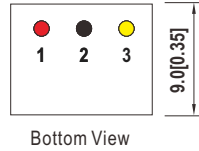
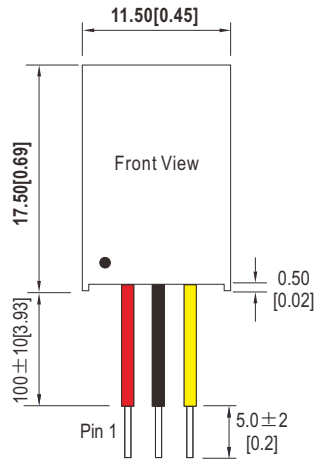
※ CH Type:



Plug Assignment

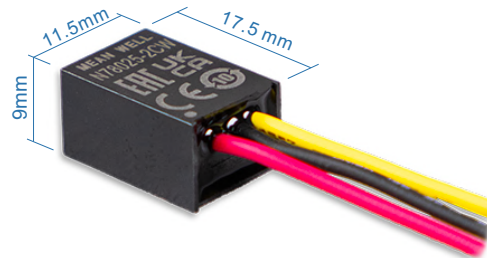
Pin-Out		
Pin No.	N78xx - 2CH	
	+Output	-Output
1	+Vin	+Vin
2	GND	-Vout
3	+Vout	GND

※ CW Type:
(Casing type with Wire)

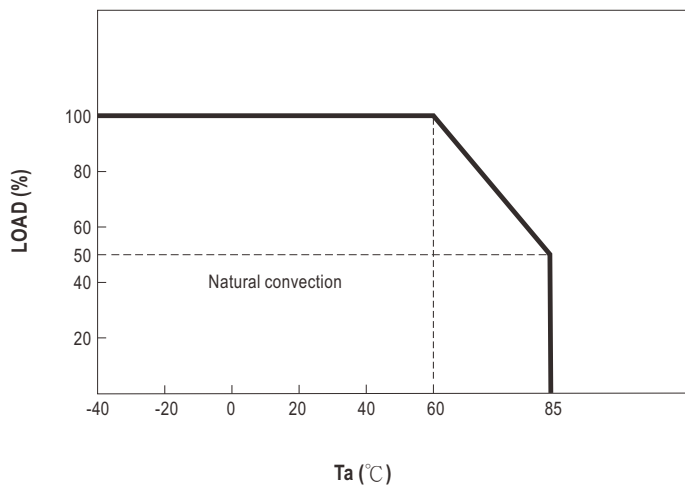


■ Plug Assignment

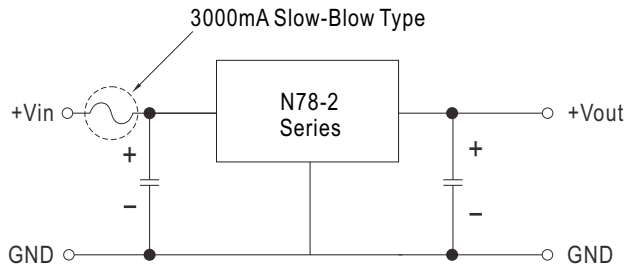
Pin-Out		
Pin No.	N78xx - 2CW	
	+Output	-Output
1 (Red)	+Vin	+Vin
2 (Black)	GND	-Vout
3 (Yellow)	+Vout	GND



■ Derating Curve

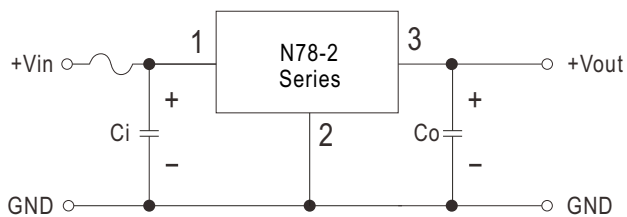


External Input Fuse Recommended

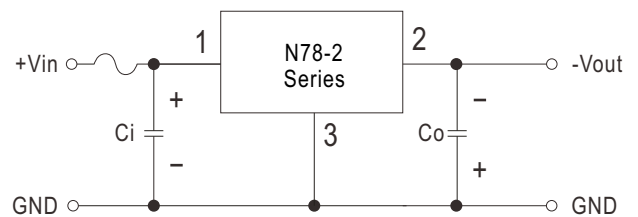


Positive or Negative Typical Applications

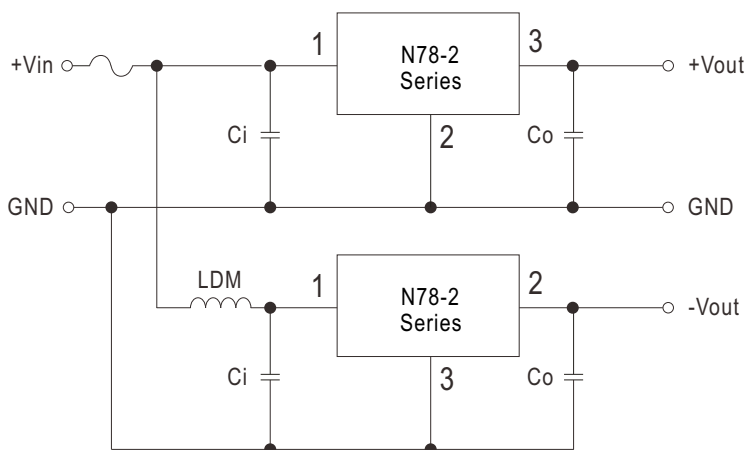
Positive output application circuit



Negative output application circuit



Positive and negative output paralleling application circuit

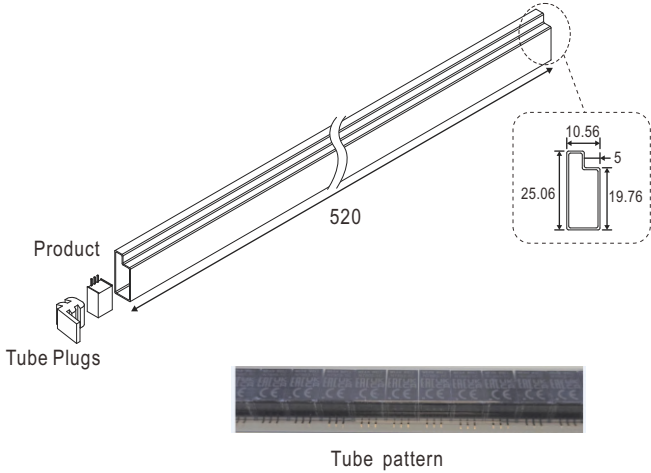
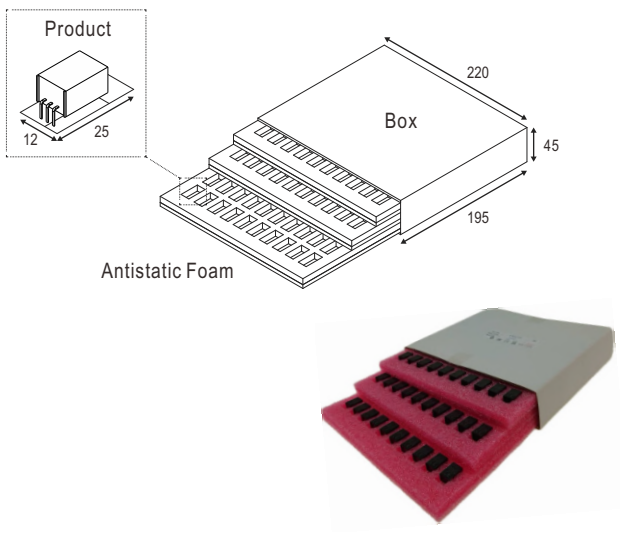


External capacitor table

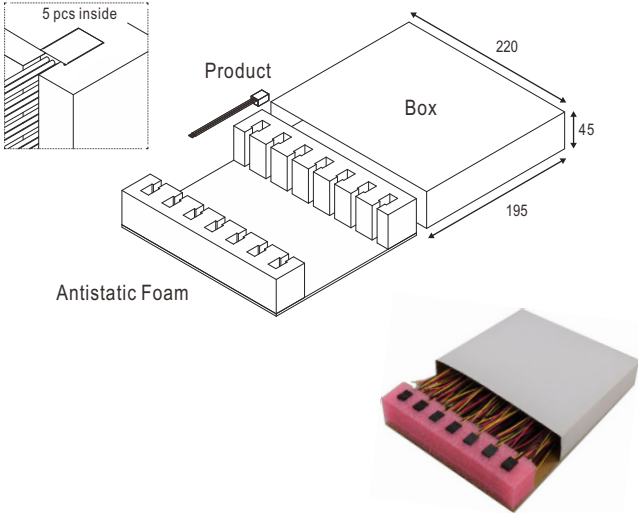
Model No.	Ci (MLCC)	Co (MLCC)
N78018-2 ☐	10μF/50V	22uF/10V
N78025-2 ☐		
N7803-2 ☐		
N7805-2 ☐		
N78065-2 ☐		22uF/25V
N7809-2 ☐		
N7812-2 ☐		
N7815-2 ☐		

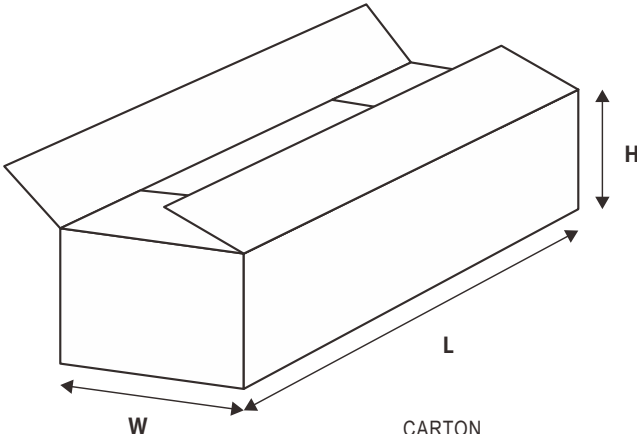
※ In using parallel application circuit, input voltage range should be taken notice of and a 10μH LDM component is recommended to reduce the interference.

Packing

Standard Packing	N78-2C			
	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Unit : mm 	42	200g	3360	17Kg
Standard Packing	N78-2CH			
	MPQ per(Box)	One Box G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Unit : mm 	150pcs	710g	1800	9.32Kg



Standard Packing	N78-2CW			
	MPQ per(Box)	One Box G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Unit : mm 	70	460g	840	6.8Kg

Standard Packing
Unit : mm  CARTON L620 x W230 x H230

■ Installation Manual

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