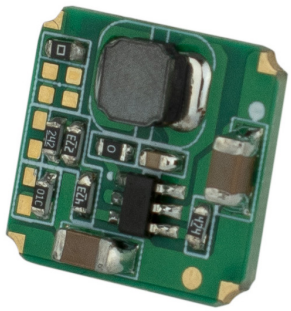
SERIES: PXO78C-500-M | **DESCRIPTION:** NON-ISOLATED DC SWITCHING REGULATOR

FEATURES

- 0.5 A current output
- ultra-thin, open-frame SMD package, thickness ≤3.5 mm
- high efficiency up to 95%
- no-load input current as low as 0.2 mA
- continuous short-circuit protection
- certified to EN/IEC 62368-1



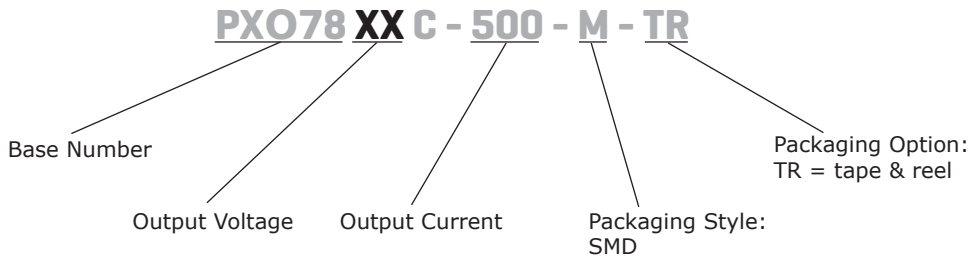
RoHS CE UKCA

MODEL

	input voltage		output voltage	output current	output power	ripple & noise[1]	efficiency[3]
	typ (Vdc)	range (Vdc)	(Vdc)	max (mA)	max (W)	max (mVp-p)	typ (%)
PXO7803C-500-M	24	4.75~36	3.3	500	1.65	100	92
PXO7805C-500-M	24	6.5~36	5	500	2.5	150	93
PXO7806C-500-M	24	8~36	6.5	500	3.25	150	93
PXO7809C-500-M	24	12~36	9	500	4.5	150	93
PXO7812C-500-M	24	15~36	12	500	6.0	150	94
PXO7815C-500-M	24	19~36	15	500	7.5	150	95

Notes:
1. Tested at nominal input, 20 MHz bandwidth, 20~100% load for 3.3 Vdc model, 10~100% load for all other models.
2. Measured at min Vin, full load.
3. All specifications are measured at Ta=25°C, humidity < 75%, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY



Please read our datasheet & drawing disclaimer here.

INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage			24	36	Vdc
input reverse polarity protection	no				
no-load input current			0.2	1.5	mA
filter	capacitor filter				
remote on/off[4]	module on CTRL pin open or pulled high (TTL 3.2~8 Vdc) module off CTRL pin connected to GND or pulled low (0~0.8 Vdc)				
remote on/off current	input current when off		30	100	μA

Notes: 4. The control pin voltage is referenced to input GND.

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load				680	μF
voltage accuracy	at full load, input voltage range 3.3 Vdc output model all other models		 ±2 ±2	 ±4 ±3	 % %
line regulation	at full load, input voltage range		±0.2	±0.4	%
load regulation	at nominal input, 10~100% load 3.3, 5 Vdc output model all other output models		 ±0.6 ±0.3		 % %
switching frequency	at nominal input voltage, full load		500		kHz
transient recovery time	at nominal input voltage, 25% load step change		0.2	1	ms
transient response deviation	at nominal input voltage, 25% load step change		±50	±200	mV
temperature coefficient	at operating temperature -40~85°C			±0.03	%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
short circuit protection	continuous, auto recovery				

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
safety approvals	certified to 62368-1: EN/IEC				
conducted emissions	CISPR32/EN55032 CLASS B (see Figure 3-2 for recommended circuit)				
radiated emissions	CISPR32/EN55032 CLASS B (see Figure 3-2 for recommended circuit)				
ESD	IEC/EN 61000-4-2 Contact ±4 kV, perf. Criteria B				
radiated immunity	IEC/EN 61000-4-3 10 V/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±1 kV (see Figure 3-1 for recommended circuit), perf. Criteria B				
surge	IEC/EN61000-4-5 line to line ± 1kV (see Figure 3-1 for recommended circuit), perf. Criteria B				
conducted immunity	IEC/EN 61000-4-6 3 Vrms, perf. Criteria A				
MTBF	as per MIL-HDBK-217F, 25°C	2,000,000			hours
RoHS	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-40		85	°C
storage temperature		-55		125	°C
storage humidity	non-condensing	5		95	%
moisture sensitivity level (MSL)	IPC/JEDEC J-STD-020D.1		Level 1		

Please read our datasheet & drawing disclaimer here.

SOLDERABILITY

parameter	conditions/description	min	typ	max	units
reflow soldering	Peak temp. ≤245°C, maximum duration time ≤60s over 217°C				

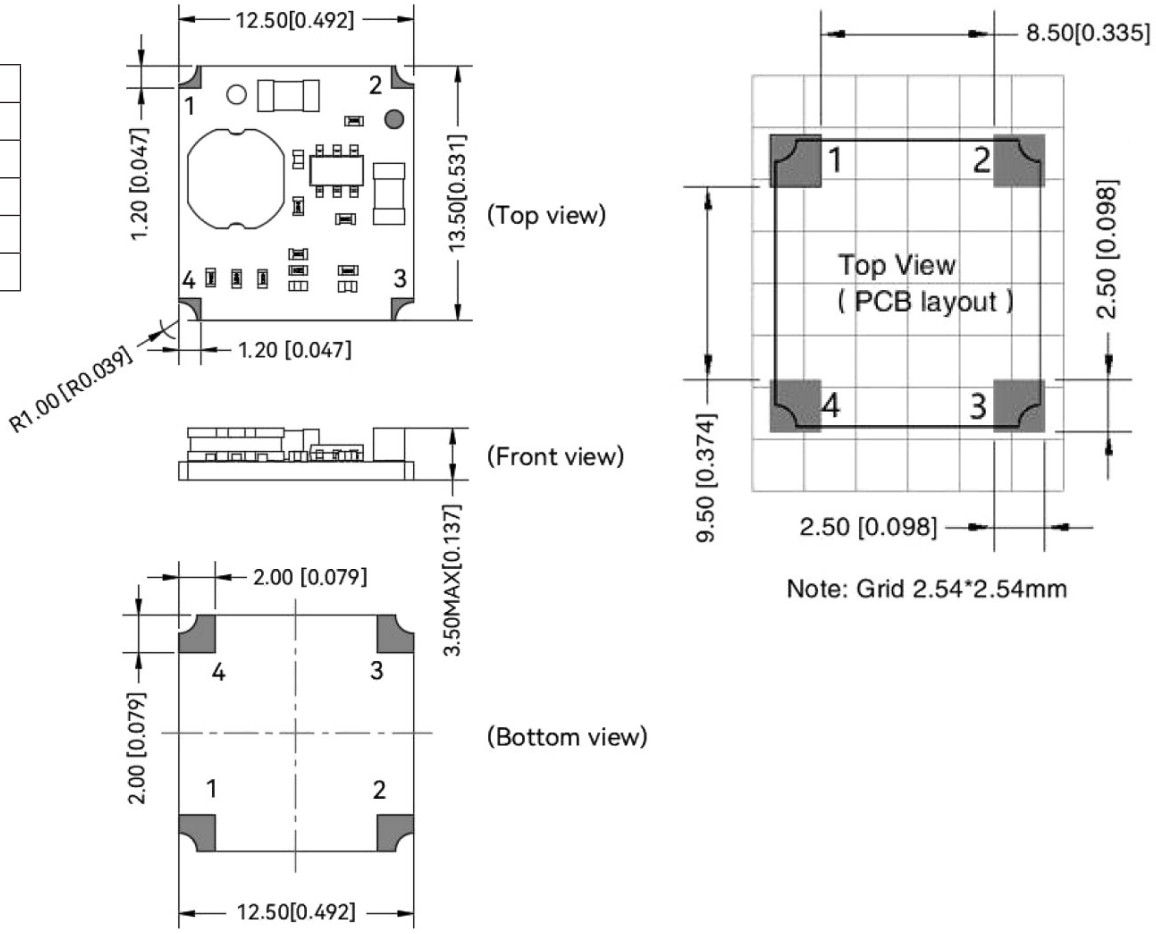
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	13.50 x 12.50 x 3.50 [0.531 x 0.492 x 0.138 inch]				mm
weight			0.92		g
cooling method	natural convection				

MECHANICAL DRAWING

units: mm [inch]
tolerance: ±0.25[±0.020]

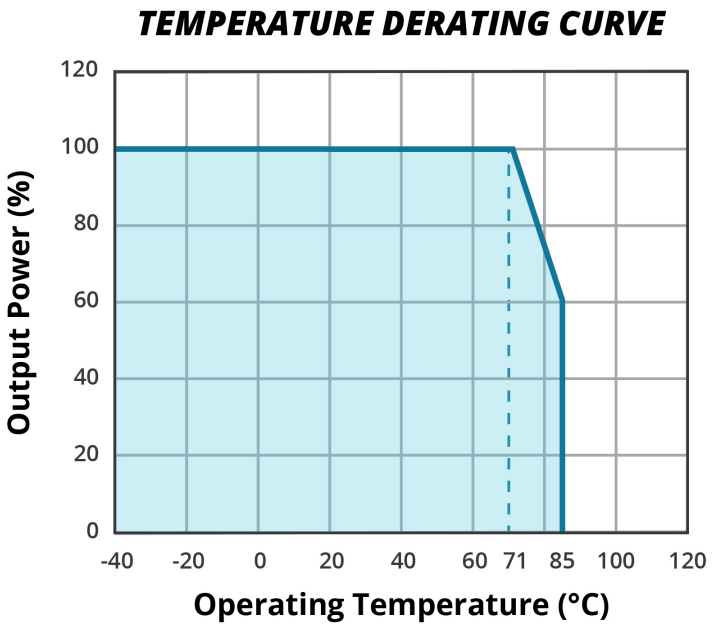
PIN-OUT	
PIN	FUNCTION
1	+Vin
2	GND
3	+Vo
4	remote on/off



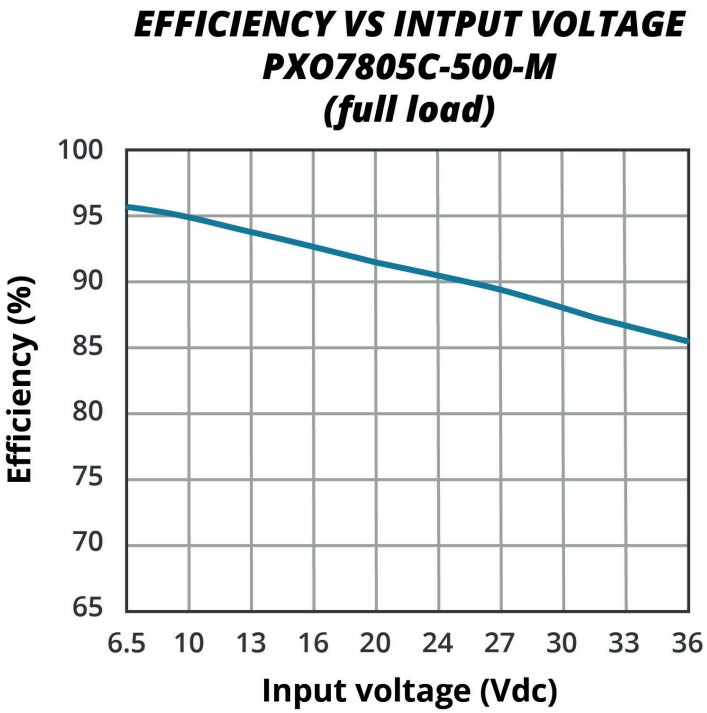
Please read our datasheet & drawing disclaimer here.

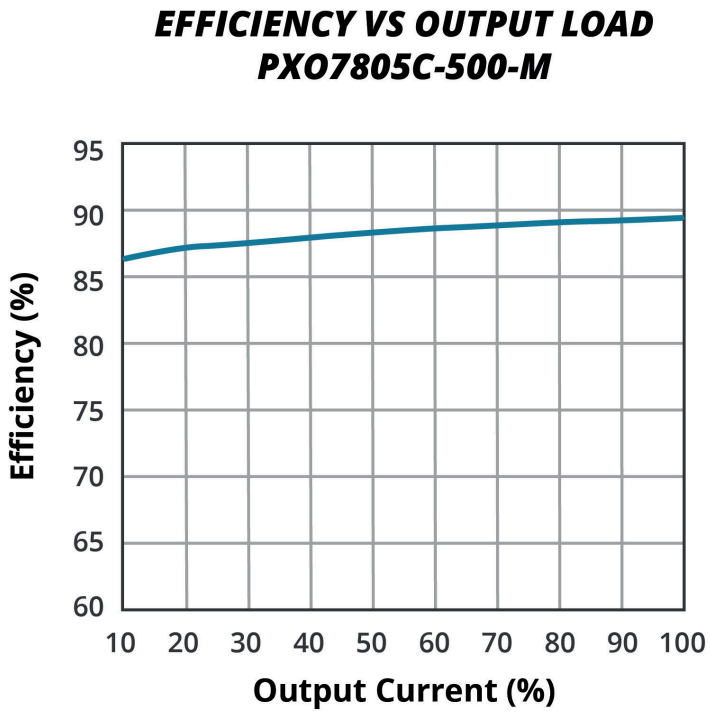
DERATING CURVE

Figure 1



EFFICIENCY CURVES





Please read our datasheet & drawing disclaimer here.

TYPICAL APPLICATION CIRCUIT

Figure 2

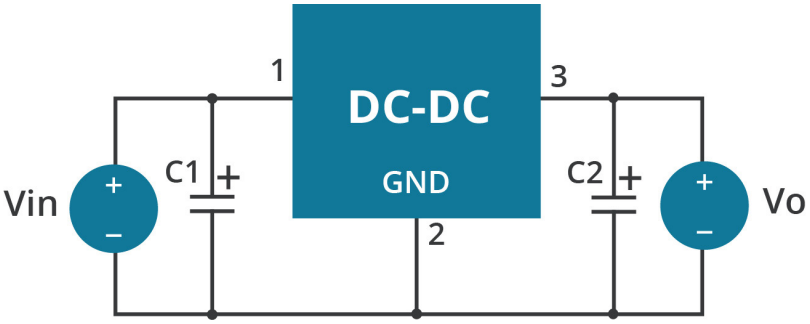


Table 1

External Capacitor Table		
Model Number	C1 (μF)	C2 (μF)
PXO7803C-500-M	10 μF/50 V	22 μF/10 V
PXO7805C-500-M	10 μF/50 V	22 μF/16 V
PXO7809C-500-M	10 μF/50 V	22 μF/25 V
PXO7812C-500-M	10 μF/50 V	22 μF/25 V
PXO7815C-500-M	10 μF/50 V	22 μF/25 V

EMC RECOMMENDED CIRCUIT

1. To ensure optimal performance, external capacitors C1 and C2 should be installed based on the product's use environment. These capacitors must be positioned as close as possible to the product's pin ends.
2. Refer to Table 1 for the recommended capacitance values of C1 and C2, which can be adjusted as required. Both low-ESR tantalum and electrolytic capacitors are suitable for use.
3. Hot swapping is not supported by this product, and its output terminal cannot be connected in parallel.
4. To further minimize output ripple, an "LC" filter network can be added to the output. The recommended inductance value (L) ranges from 10 μH to 47 μH.

Figure 3

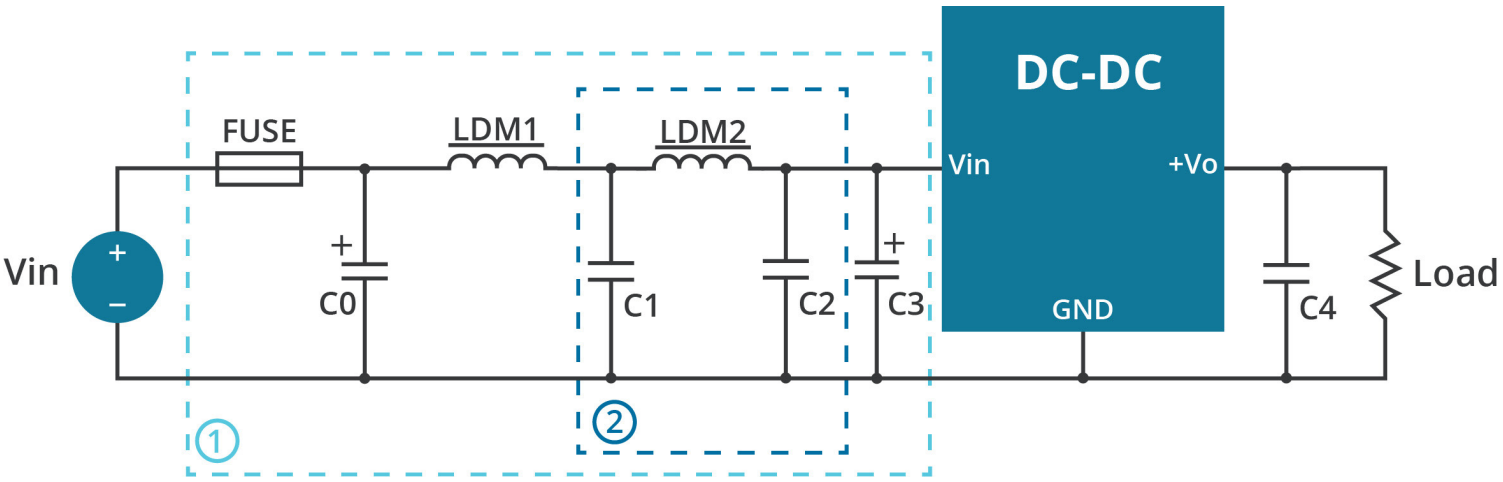


Table 2

Recommended external circuit components	
FUSE	choose according to actual input current
C0 / C3	330 μF/ 50 V
LDM1	82 μH
C4	see Table 1
C1 / C2	10 μF / 50 V
LDM2	22 μH

Notes: For EMC tests we use Part ① in Fig. 3 for immunity and part ② for emissions test. Selecting based on needs.

Please read our datasheet & drawing disclaimer here.

REVISION HISTORY

rev.	description	date
1.0	initial release	07/14/2025
1.01	datasheet updated	08/12/2025
1.03	dimensions updated, 6.5 V model added	01/15/2026

The revision history provided is for informational purposes only and is believed to be accurate.

CUI INC
a bel group

15575 SW Sequoia Pkwy #100
Portland, OR 97224
800.275.4899

Fax 503.612.2383
Belfuse.com
powersupport@belf.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Please read our datasheet & drawing disclaimer here.