SERIES: PXO78B-1000 | **DESCRIPTION:** NON-ISOLATED DC SWITCHING REGULATOR

FEATURES

- 1 A current output
- pin compatible with LM78XX linear regulators
- input voltage range up to 6 ~ 36 Vdc
- continuous short circuit protection
- compact open-frame design
- certified to EN/IEC 62368-1



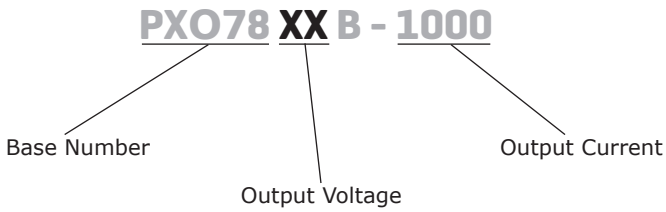
RoHS CE UK CA

MODEL

MODEL	input voltage[1] typ (Vdc)	input voltage[1] range (Vdc)	output voltage (Vdc)	output current max (mA)	output power max (W)	ripple & noise[2] max (mVp-p)	efficiency typ (%)
PXO7803B-1000	24	6~36	3.3	1,000	3.3	100	89
PXO7805B-1000	24 12	8~36 8~27	5 -5	1,000 -500	5.0 2.5	100	93 86
PXO7806B-1000	24	10~36	6.5	1,000	6.5	100	93
PXO7812B-1000	24 12	16~36 8~20	12 -12	1,000 -300	12.0 3.6	100	95 88
PXO7815B-1000	24 12	20~36 8~18	15 -15	1,000 -300	15.0 4.5	100	96 89

Notes:
1. For input voltages higher than 30 Vdc, a 22 µF / 50 V input capacitor is required.
2. Tested at nominal input, 20~100%, 20 MHz bandwidth.
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
input reverse polarity protection	no				
no-load input current	positive output at nominal input voltage		0.1	1.5	mA
filter	capacitor filter				

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load	positive output negative output			680 330	µF 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 at nominal input, 0~100% load		±0.4 ±0.6	±0.6 ±1.0	% %
switching frequency	at nominal input voltage, full load 3.3, 5, 6 Vdc output models all other models	 420 580	 520 680	 620 780	 kHz kHz
transient recovery time	at nominal input voltage, 25% load step change		0.1	1	ms
transient response deviation	at nominal input voltage, 25% load step change		50	300	mV
temperature coefficient	operating temperature -40°C~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 Fig. 3-2 for recommended circuit)				
radiated emissions	CISPR32/EN55032 CLASS B (see Fig. 3-2 for recommended circuit)				
ESD	IEC/EN 61000-4-2 Contact ±4kV, perf. Criteria B				
radiated immunity	IEC/EN 61000-4-3 10V/m, perf. Criteria A				
EFT/burst	IEC/EN 61000-4-4 ±1kV (see Fig. 3-1 for recommended circuit), perf. Criteria B				
surge	IEC/EN 61000-4-5 line to line ±1kV (see Fig. 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	%

SOLDERABILITY

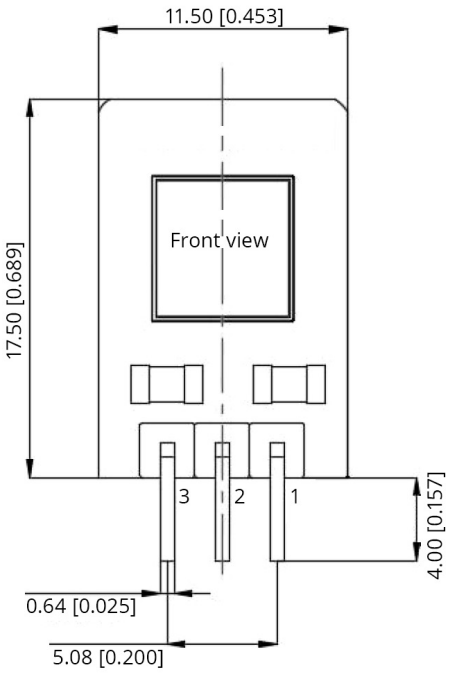
parameter	conditions/description	min	typ	max	units
wave soldering resistance temperature	soldering time: 5~10 seconds	255	260	265	°C
hand soldering resistance temperature	soldering time: 3~5 seconds	350	360	370	°C

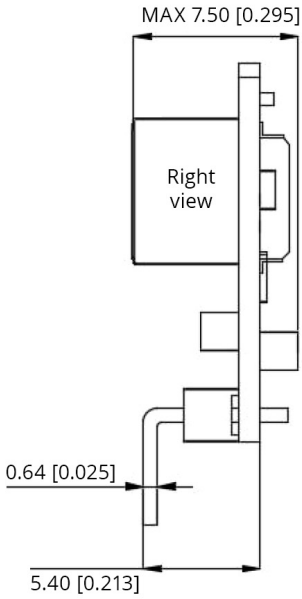
MECHANICAL

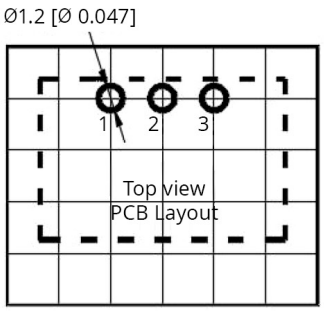
parameter	conditions/description	min	typ	max	units
dimensions	11.50 x 7.50 x 17.50 [0.453 x 0.295 x 0.689 inch]				mm
weight			2.1		g
cooling method	natural convection				

MECHANICAL DRAWING

units: mm [inch]
tolerance: ±0.50[±0.020]
pin section tolerance: ±0.10[±0.004]



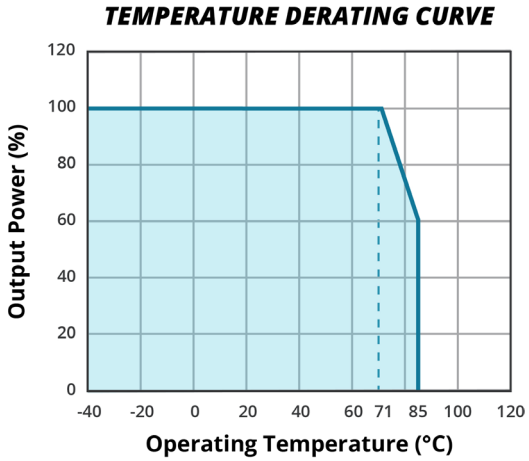




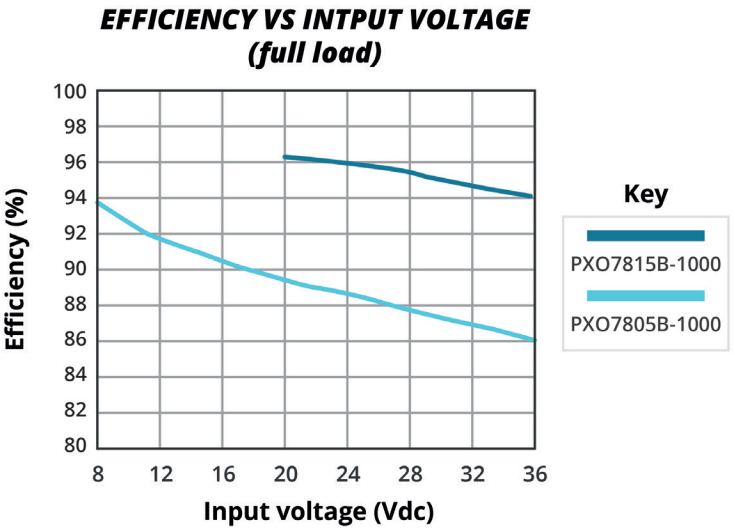
Note:Grid 2.54*2.54mm

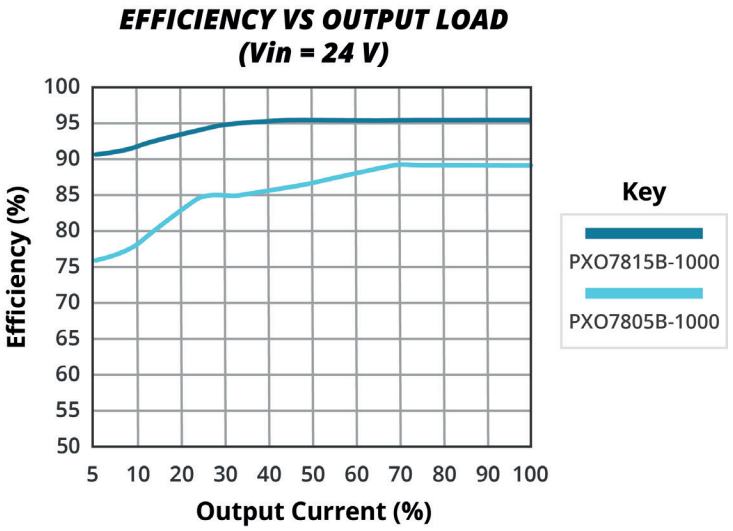
PIN-OUT		
PIN	POSITIVE OUTPUT	NEGATIVE OUTPUT
	FUNCTION	FUNCTION
1	Vin	Vin
2	GND	-Vout
3	+Vout	GND

DERATING CURVE



EFFICIENCY CURVES

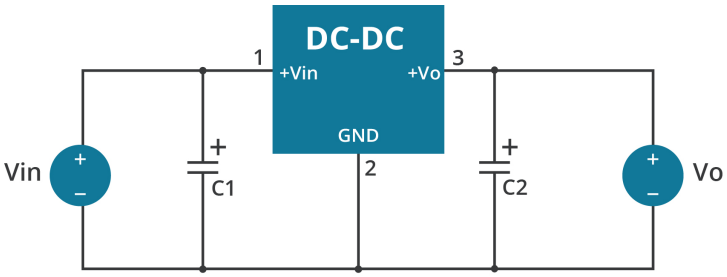




TYPICAL APPLICATION CIRCUIT

Figure 1

Positive output



Negative output

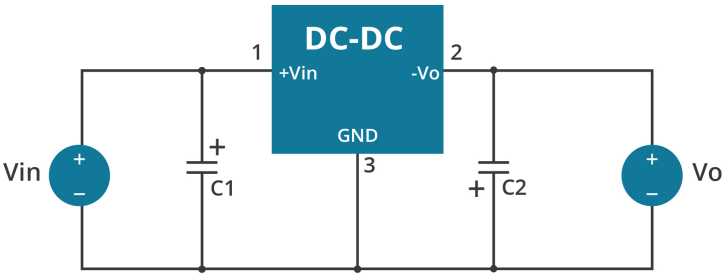


Figure 2

Positive output and Negative output

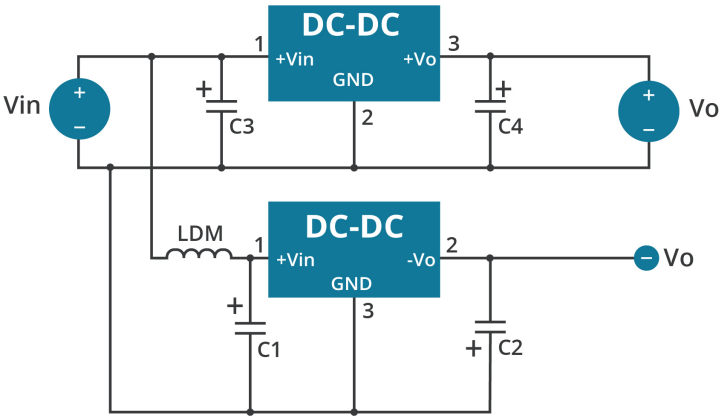


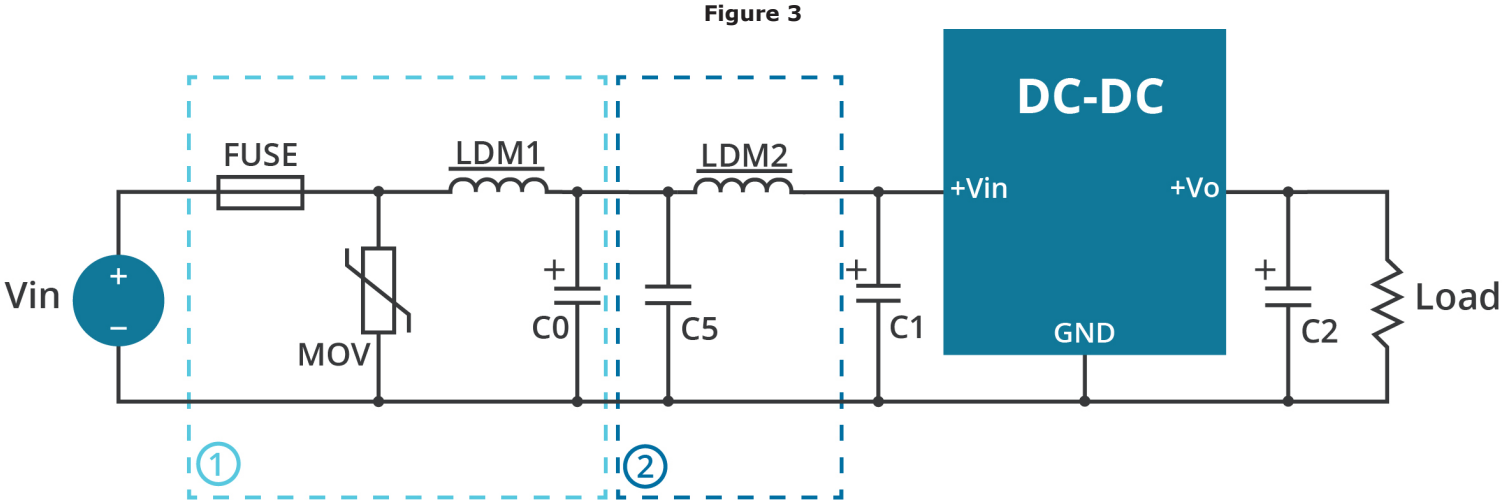
Table 1

Model Number	C1/C3 (ceramic capacitor)	C2/C4 (ceramic capacitor)
PXO7803B-1000	10 µF/50 V	22 µF/10 V
PXO7805B-1000	10 µF/50 V	22 µF/10 V
PXO7806B-1000	10 µF/50 V	22 µF/25 V
PXO7812B-1000	10 µF/50 V	22 µF/25 V
PXO7815B-1000	10 µF/50 V	22 µF/25 V

Note:
1. The required capacitors C1 and C2 (C3 and C4) must be connected as close as possible to the terminals of the module.
2. Refer to Table 1 for C1 and C2 (C3 and C4) capacitor values.
3. For certain applications, increased values and/or tantalum or low ESR electrolytic capacitors may also be used instead.
4. When using the configuration shown in Fig. 2, we recommend adding an inductor (LDM) with a value of 10 µH to help reduce mutual interference.
5. Converter cannot be used for hot swap and with output in parallel.

EMC RECOMMENDED CIRCUIT

Figure 3



Note: For EMC tests we use Part ① in Fig. 5 for immunity and part ② for emissions test. Selecting based on needs.

Table 2

Recommended external circuit components	
FUSE	choose according to actual input current
MOV	S20K30
LDM1	82 μH
C0	680 μF/50 V
C1 / C2	see Table 1
C5	4.7 μF/50 V
LDM2	12 μH

REVISION HISTORY

rev.	description	date
1.0	initial release	08/21/2026

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

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