

SERIES: DEP2-M | DESCRIPTION: DC-DC CONVERTER

FEATURES

- 2 W isolated output
- compact SMT package
- single unregulated output
- 3,000 Vdc isolation voltage
- -40 to 105°C with derating
- certified to IEC/EN/UL 62368-1
- continuous short circuit protection

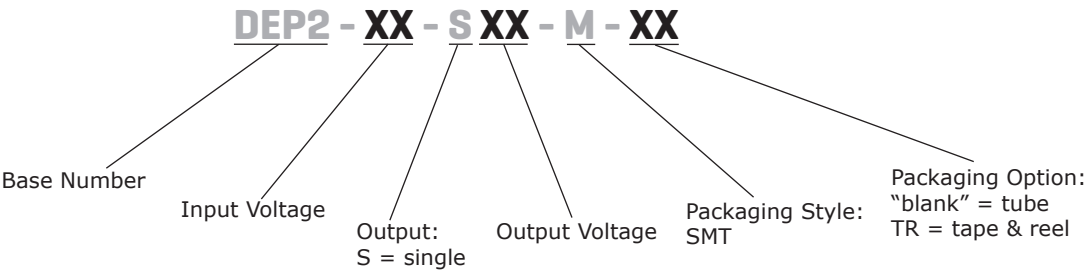


MODEL

MODEL	input voltage		output voltage (Vdc)	output current max (mA)	output power max (W)	ripple & noise ¹ max (mVp-p)	efficiency typ (%)
	typ (Vdc)	range (Vdc)					
DEP2-5-S3-M	5	4.5~5.5	3.3	600	2	150	78
DEP2-5-S5-M	5	4.5~5.5	5	400	2	150	85
DEP2-5-S9-M	5	4.5~5.5	9	223	2	150	87
DEP2-5-S12-M	5	4.5~5.5	12	167	2	150	87
DEP2-5-S15-M	5	4.5~5.5	15	133	2	150	88
DEP2-5-S24-M	5	4.5~5.5	24	84	2	150	89
DEP2-12-S3-M	12	10.8~13.2	3.3	600	2	150	80
DEP2-12-S5-M	12	10.8~13.2	5	400	2	150	85
DEP2-12-S9-M	12	10.8~13.2	9	223	2	150	87
DEP2-12-S12-M	12	10.8~13.2	12	167	2	150	87
DEP2-12-S15-M	12	10.8~13.2	15	133	2	150	88
DEP2-12-S24-M	12	10.8~13.2	24	84	2	150	89
DEP2-15-S3-M	15	13.5~16.5	3.3	600	2	150	80
DEP2-15-S5-M	15	13.5~16.5	5	400	2	150	85
DEP2-15-S9-M	15	13.5~16.5	9	223	2	150	87
DEP2-15-S12-M	15	13.5~16.5	12	167	2	150	87
DEP2-15-S15-M	15	13.5~16.5	15	133	2	150	88
DEP2-15-S24-M	15	13.5~16.5	24	84	2	150	89
DEP2-24-S3-M	24	21.6~26.4	3.3	600	2	150	80
DEP2-24-S5-M	24	21.6~26.4	5	400	2	150	85
DEP2-24-S9-M	24	21.6~26.4	9	223	2	150	87
DEP2-24-S12-M	24	21.6~26.4	12	167	2	150	87
DEP2-24-S15-M	24	21.6~26.4	15	133	2	150	88
DEP2-24-S24-M	24	21.6~26.4	24	84	2	150	89

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope.
2. All specifications are measured at TA=25°C, nominal input voltage and rated output current unless otherwise specified

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
input voltage range			±10		%
filter	capacitance filter				
surge	5 Vdc input models	-0.7		9	Vdc
	9 Vdc input models	-0.7		15	Vdc
	12 Vdc input models	-0.7		18	Vdc
	15 Vdc input models	-0.7		21	Vdc
	24 Vdc input models	-0.7		30	Vdc
reflected ripple current			15		mA

OUTPUT

parameter	conditions/description	min	typ	max	units
maximum capacitive load	3.3, 5 Vdc output models			2,400	µF
	9 Vdc output models			820	µF
	12 Vdc output models			470	µF
	15 Vdc output models			220	µF
	24 Vdc output models			100	µF
voltage accuracy	at full load			±5	%
line regulation			1.2		%
load regulation	measured from 10~100% load				
	3.3 Vdc output models		15	20	%
	5 Vdc output models		8	15	%
	9 Vdc output models		6	10	%
	12 Vdc output models		5	10	%
	15 Vdc output models		4	10	%
switching frequency	24 Vdc output models		3	10	%
	at Vin nominal, full load				
	5 Vdc input models		215		kHz
	all other input models		250		kHz

PROTECTIONS

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

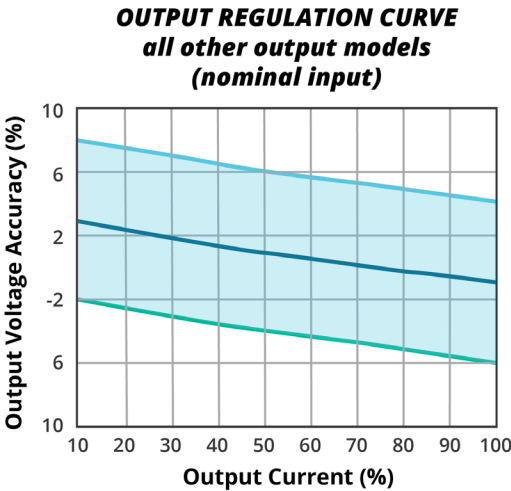
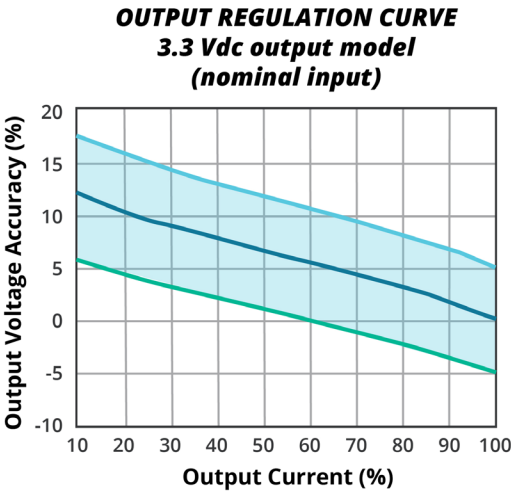
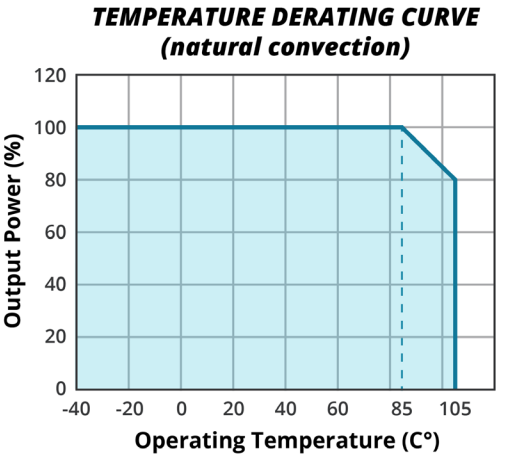
SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute	3,000			Vdc
isolation capacitance	input to output, 100 kHz/0.1V		20		pF
safety approvals	certified to 62368-1: IEC, EN, UL				
radiated emissions	CISPR32/EN55032 CLASS B (see Fig. 2 for recommended circuit)				
ESD	IEC/EN61000-4-2 air: ±8 kV, indirect contact: ±4 kV, perf. Criteria B				
radiated immunity	IEC/EN61000-4-3 3 V/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±0.5 kV, perf. Criteria B				
conducted immunity	IEC/EN61000-4-6 3 V max., perf. Criteria A				
MTBF	as per MIL-HDBK-217, at 25°C	3,500,000			hours
RoHS	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-40		105	°C
storage temperature		-55		125	°C
operating humidity	non-condensing	-		95	%

DERATING CURVE



MECHANICAL

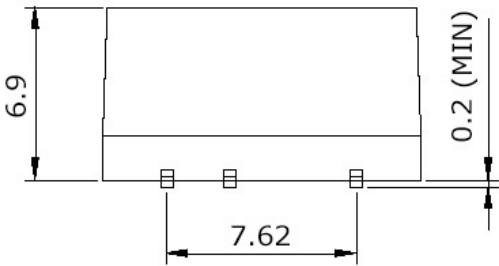
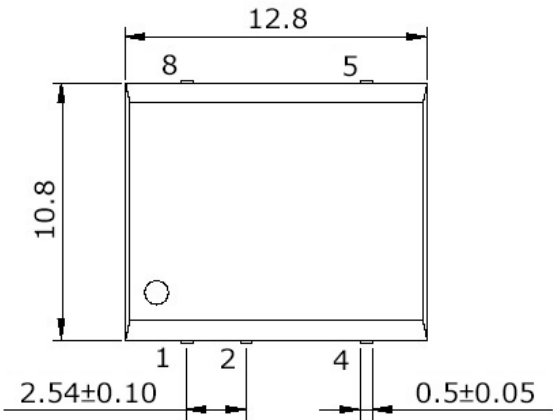
parameter	conditions/description	min	typ	max	units
dimensions	12.8 (L) x 10.8 (W) x 6.9 (H)				mm
case material	non-conductive black plastic				
weight			1.28		g

MECHANICAL DRAWING

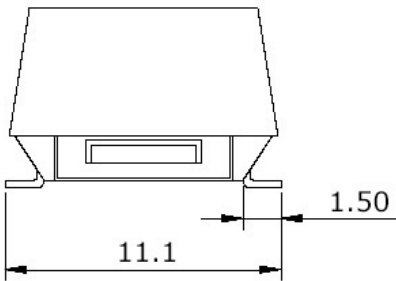
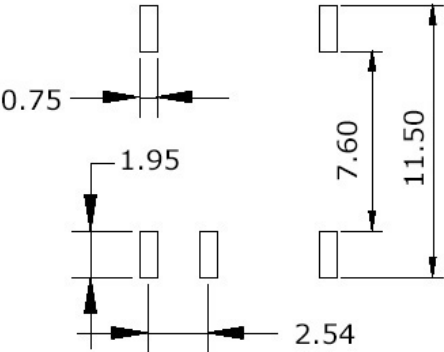
units: mm
tolerance: ±0.25 mm

PIN CONNECTIONS	
PIN	Functions
1	-Vin
2	+Vin
3	no pin
4	-Vout
5	+Vout
6	no pin
7	no pin
8	NC

NC = no connection



SUGGESTED PAD LAYOUT



RECOMMENDED TEST CIRCUIT

Figure 1



Table 1

RECOMMENDED VALUES			
Vin	Cin	Vout	Cout
5	4.7μF/25V	3.3	10μF/16V
12	2.2μF/25V	5	10μF/16V
15	2.2μF/25V	9	2.2μF/16V
24	1μF/50V	12	2.2μF/25V
-	-	15	1μF/25V
-	-	24	1μF/50V

EMC RECOMMENDED CIRCUIT

Figure 2

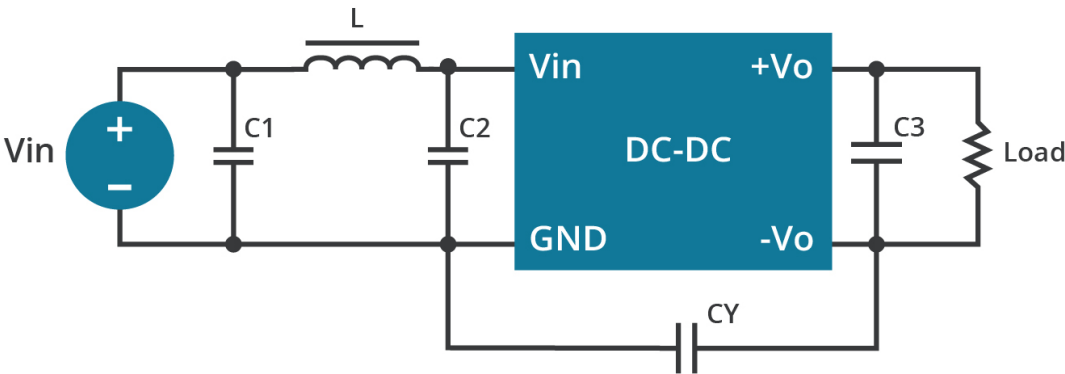


Table 2

RECOMMENDED VALUES	
C1	4.7μF/50V
C2	4.7μF/50V
CY	1nF/4kV
C3	see Fig. 1
L	6.8μH

REVISION HISTORY

rev.	description	date
1.0	initial release	09/25/2025

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



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.