

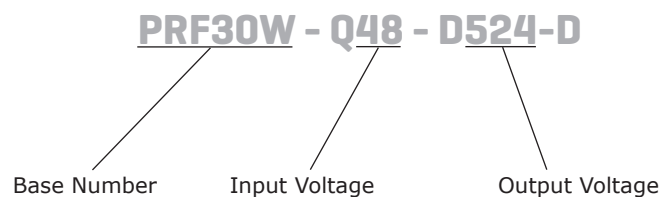
SERIES: PRF30W-Q48-D524-D | **DESCRIPTION:** DC-DC CONVERTER
FEATURES

- ultrawide 4:1 input range
- dual asymmetrical positive output
- 3000 Vac isolation
- input under-voltage protection
- output short circuit, over current, and over-voltage protection
- wide operating temp: -40°C to +85°C
- EN62368 approved
- meets IEC61000-4-5 (Surge) at ±2KV without extra components
- meets IEC61000-4-4 (EFT) at ±4KV without extra components

**MODEL**

	input voltage		output voltage	output current		output power	ripple & noise	full load efficiency ¹
	typ (Vdc)	range (Vdc)	Vo1/Vo2 (Vdc)	min (mA)	max (mA)	max (W)	Vo1/Vo2 max (mVp-p)	min/typ (%)
PRF30W-Q48-D524-D	48	18~75	5/24	0/0	4000/417	30	80/100	82/84

Notes: 1. Efficiency is measured in nominal input voltage and rated output load.

PART NUMBER KEY

INPUT

parameter	conditions/description	min	typ	max	units
input voltage	at start up	18		80	Vdc
current	full load/no load, nominal input voltage		745/40	763/80	A
start-up time			20	50	ms
surge voltage	1 second max	-0.7		100	V

OUTPUT

parameter	conditions/description	min	typ	max	units
output capacitance	Vo1			3000	μF
	Vo2			100	μF
line regulation	Vo1/Vo2		±0.2/±0.5	±0.5/±1	%
load regulation	5~100% load		±0.5	±1	%
set-point accuracy	5~100% load		±1	±3	%
switching frequency	PWM mode		300		kHz
transient response	25% load step change, nominal input voltage		±4	±8	% Vout
temperature coefficient	full load			±0.03	%/°C

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection		110		160	%Vo
over current protection		110		190	%Io
short circuit protection	continuous, self recovery				
input under-voltage protection	output on:			18	Vdc
	output off:	12			Vdc

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute at 5mA	3000			Vac
isolation resistance	input to output at 500 Vdc	1000			MΩ
safety approvals	EN/IEC 62368				
EMI/EMC	CISPR32/EN 55032 Class B				
ESD	IEC/EN61000-4-2, Contact ±8KV, perf. Criteria B				
radiated immunity	IEC/EN6100-4-3, 30 v/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4, ±4KV, perf. Criteria B				
surge	IEC/EN61000-4-5, ±2KV, perf. Criteria B				
conducted immunity	IEC/EN61000-4-6, 10 Vr.m.s, perf. Criteria A				
RoHS	yes				
MTBF	as per MIL-HDBK-217F at 25°C	1000			kHours

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-40		85	°C
storage temperature		-55		125	°C
humidity		5		95	%
shock/vibration	10-150Hz, 5G, 90 Min. along X, Y and Z				

SOLDERABILITY

parameter	conditions/description	min	typ	max	units
hand soldering	Soldering spot is 1.5mm away from case for 10 seconds			300	°C

MECHANICAL

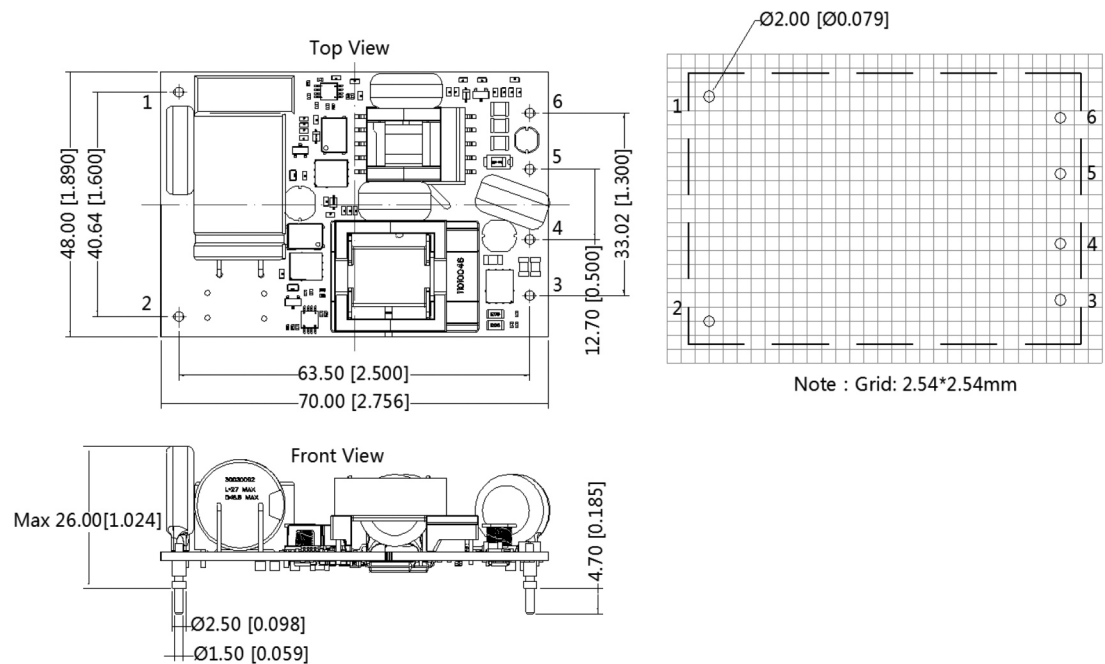
parameter	conditions/description	min	typ	max	units
dimensions	70 x 48 x 26				mm
weight			50		g

MECHANICAL DRAWING

units: inches [mm]

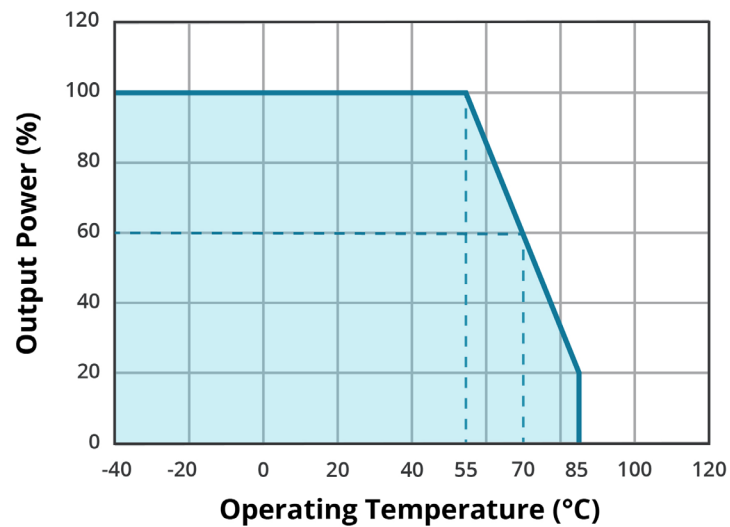
tolerance: ± 0.50 [± 0.020]

PIN CONNECTIONS	
PIN	FUNCTION
1	Vin
2	GND
3	Vo1+
4	Vo1-
5	Vo2-
6	Vo2+



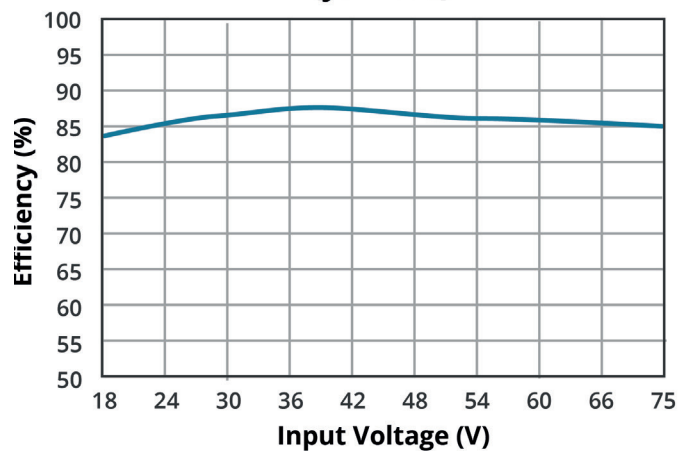
DERATING CURVES

TEMPERATURE DERATING CURVE

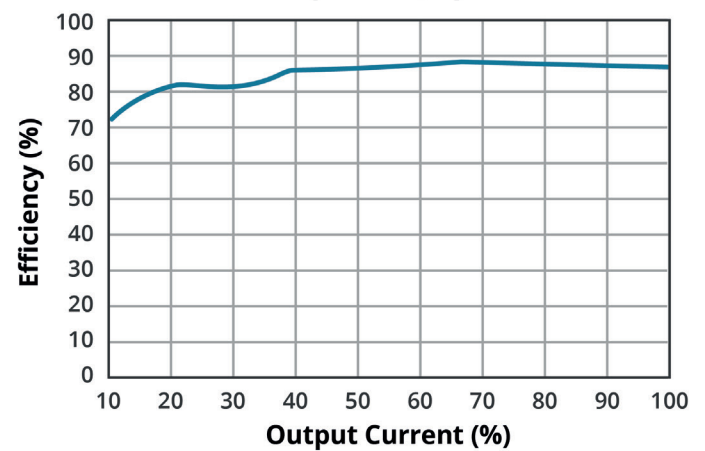


EFFICIENCY CURVES

**EFFICIENCY VS INPUT LOAD
(full load)**



**EFFICIENCY VS OUTPUT LOAD
(Vin = 48 V)**



REVISION HISTORY

rev.	description	date
1.0	initial release	05/26/2020
1.01	isolation voltage updated to Vac; updated derating & efficiency curves	06/08/2021

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



Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[CUI Inc.:](#)

[PRF30W-Q48-D524-D](#)