CUI INC
a bel group

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



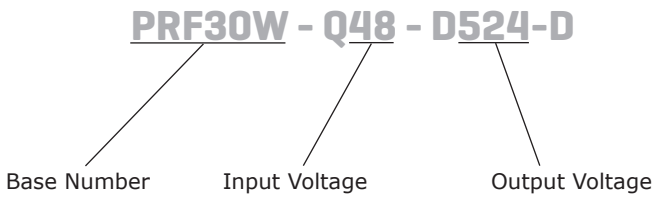
RoHS CE

MODEL

MODEL	input voltage		output voltage Vo1/Vo2	output current Vo1/Vo2		output power	ripple & noise Vo1/Vo2	full load efficiency[1]
	typ (Vdc)	range (Vdc)	(Vdc)	min (mA)	max (mA)	max (W)	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 Vo2			3000 100	µF 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: output off:	 12		18	Vdc 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

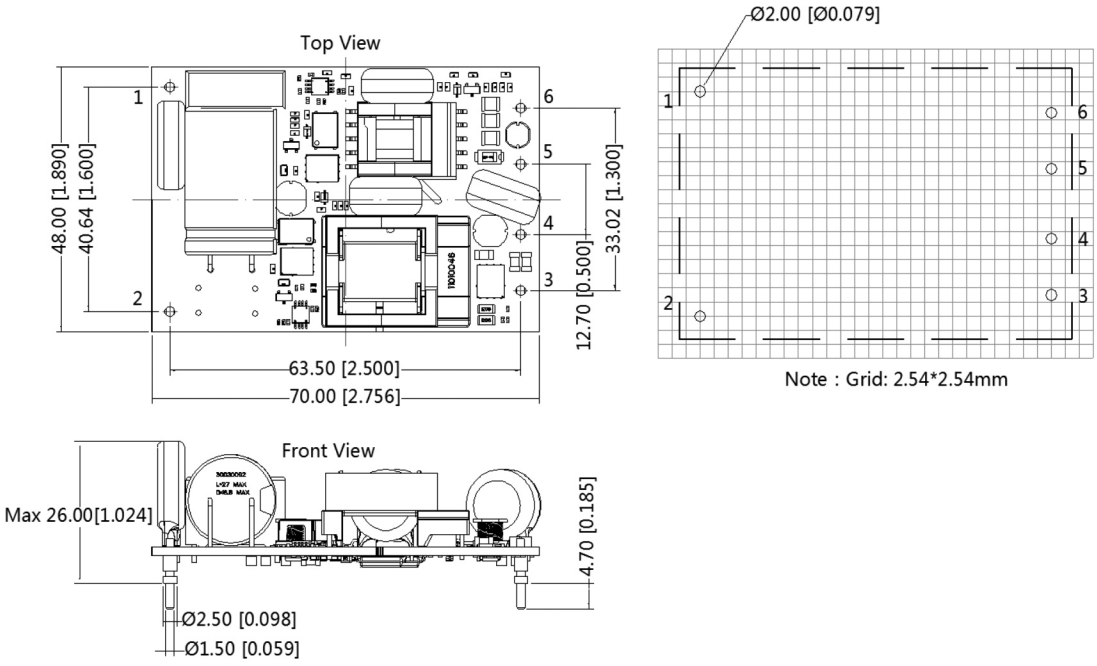
MECHANICAL

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

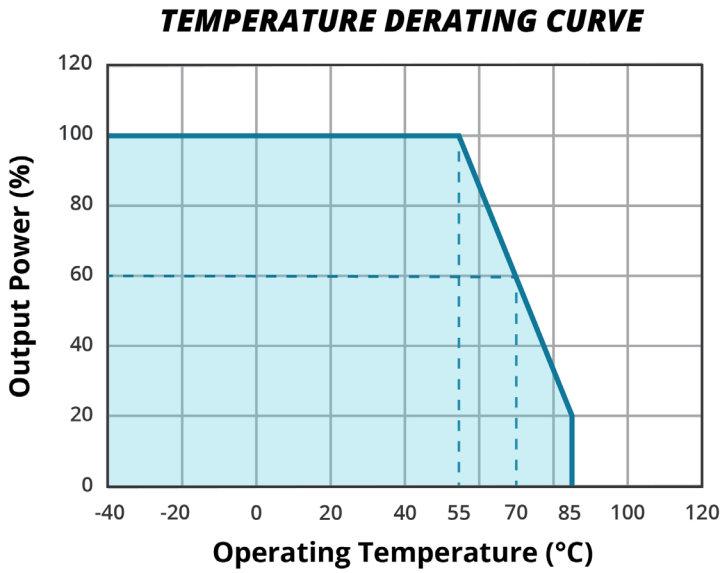
MECHANICAL DRAWING

units: inches [mm]
tolerance: ± 0.50 [±0.020]

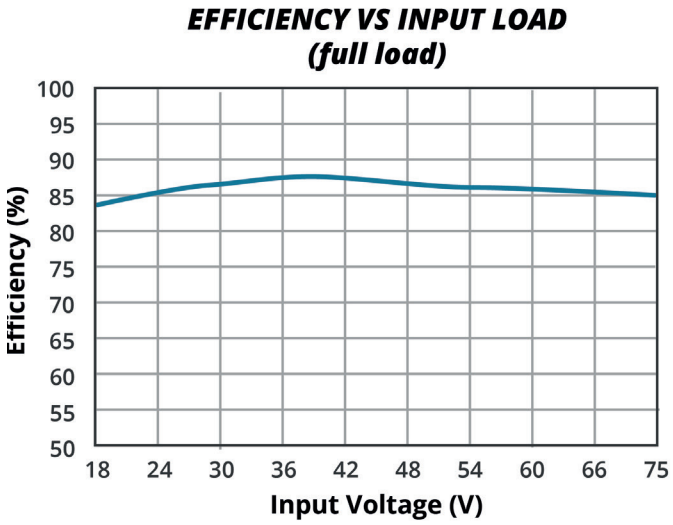
PIN CONNECTIONS	
PIN	FUNCTION
1	Vin
2	GND
3	Vo1+
4	Vo1-
5	Vo2-
6	Vo2+

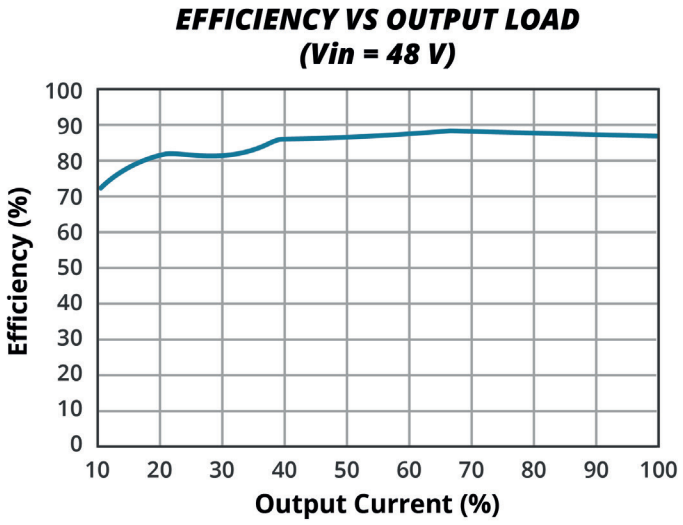


DERATING CURVES



EFFICIENCY CURVES





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.

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

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