

SERIES: PSK-40F | DESCRIPTION: INTERNAL AC-DC POWER SUPPLY

FEATURES

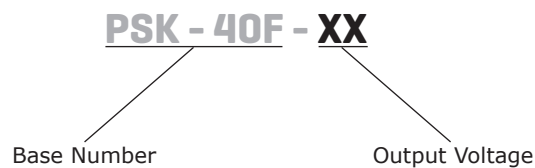
- universal input (85~305 Vac, 100~430 Vdc)
- -40~85°C operating range
- short circuit, under voltage, and over current protection
- isolation voltage 4,000 Vac
- certified to UL/EN/IEC 62368-1
- designed to meet EN 61558-1, EN 60335-1
- CISPR32/EN55032 Class B with application circuit
- Class II
- low stand-by power consumption (<0.3 W)
- high efficiency up to 89%
- 2,000 m operating altitude
- OVC III



MODEL	output voltage	output current	output power	ripple and noise ¹	efficiency ²
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
PSK-40F-5	5	7.0	35	150	86
PSK-40F-9	9	4.0	36	150	89
PSK-40F-12	12	3.33	40	150	90
PSK-40F-15	15	2.666	40	150	90
PSK-40F-24	24	1.67	40	150	89
PSK-40F-48	48	0.833	40	150	90

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 1 μ F ceramic and 10 μ F electrolytic capacitors on the output.
 2. At 230 Vac input.
 3. All specifications are measured at Ta=25°C, humidity <75%, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage	AC input	85		305	Vac
	DC input	48 Vdc output model		430	Vdc
		all other outputs		430	Vdc
frequency		47	50~60	63	Hz
current	at 115 Vac			1.0	A
	at 230 Vac			0.6	A
inrush current	at 115 Vac		30		A
	at 230 Vac		60		A
leakage current	at 230 Vac/50 Hz			0.1	mA
recommended external input fuse	2A/300V, slow-blow, required				

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model			6,600	μF
	9, 12 Vdc output model			4,400	μF
	15 Vdc output model			3,300	μF
	24 Vdc output model			1,500	μF
	48 Vdc output model			470	μF
output voltage accuracy			±2		%
line regulation	at full load		±0.5		%
load regulation	0~100% load	5 Vdc output model	±2		%
		all other outputs	±1		%
hold-up time	at 230 Vac		55		ms
temperature coefficient			±0.02		%/°C
no load power consumption	at 230 Vac		0.3	0.55	W

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery	110			%
short circuit protection	continuous, auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute, 5mA max	4,000			Vac
safety approvals	certified to 62368-1: UL, EN, IEC designed to meet 61558-1: EN designed to meet 60335-1: EN				
safety class	Class II				
conducted emissions	CISPR32/EN55032 CLASS B				
radiated emissions	CISPR32/EN55032 CLASS B				
ESD	IEC/EN61000-4-2 Contact ±6 kV/Air ±8 kV, perf. Criteria A				
radiated immunity	IEC/EN61000-4-3 10 V/m, perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±2 kV, perf. Criteria B				
	IEC/EN61000-4-4 ±4 kV, perf. Criteria A (see Fig. 2 for recommended circuit)				
surge	IEC/EN61000-4-5 line to line ±2 kV, perf. Criteria B				
	IEC/EN61000-4-5 line to line ±2 kV; line to PE ±4 kV, perf. Criteria A (see Fig. 2 for recommended circuit)				
conducted immunity	IEC/EN61000-4-6 10 Vrms, perf. Criteria A				

SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
MTBF	MIL-HDBK-217F at 25°C	500,000			hours
RoHS	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-40		85	°C
storage temperature		-40		85	°C
storage humidity		0		95	%

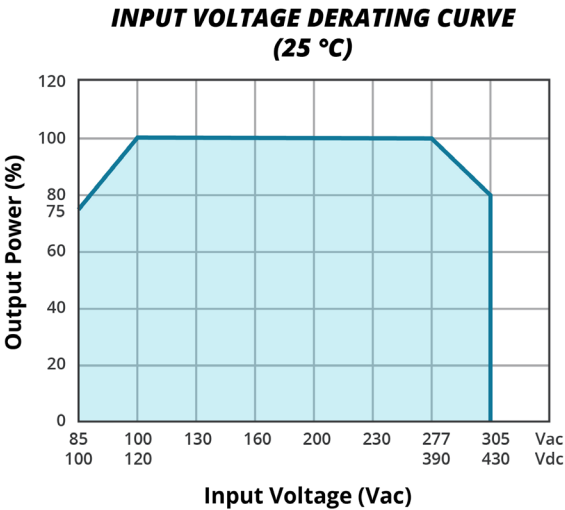
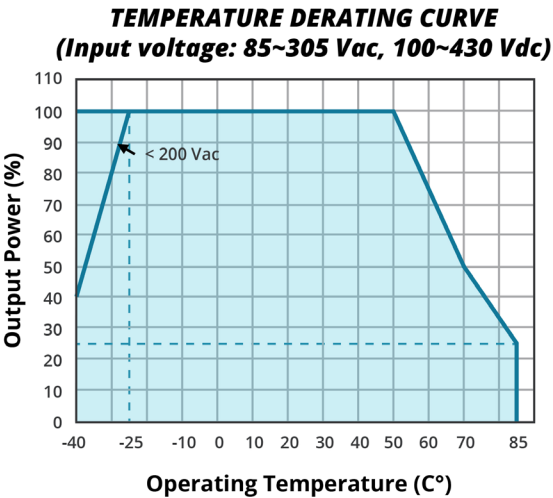
SOLDERABILITY

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

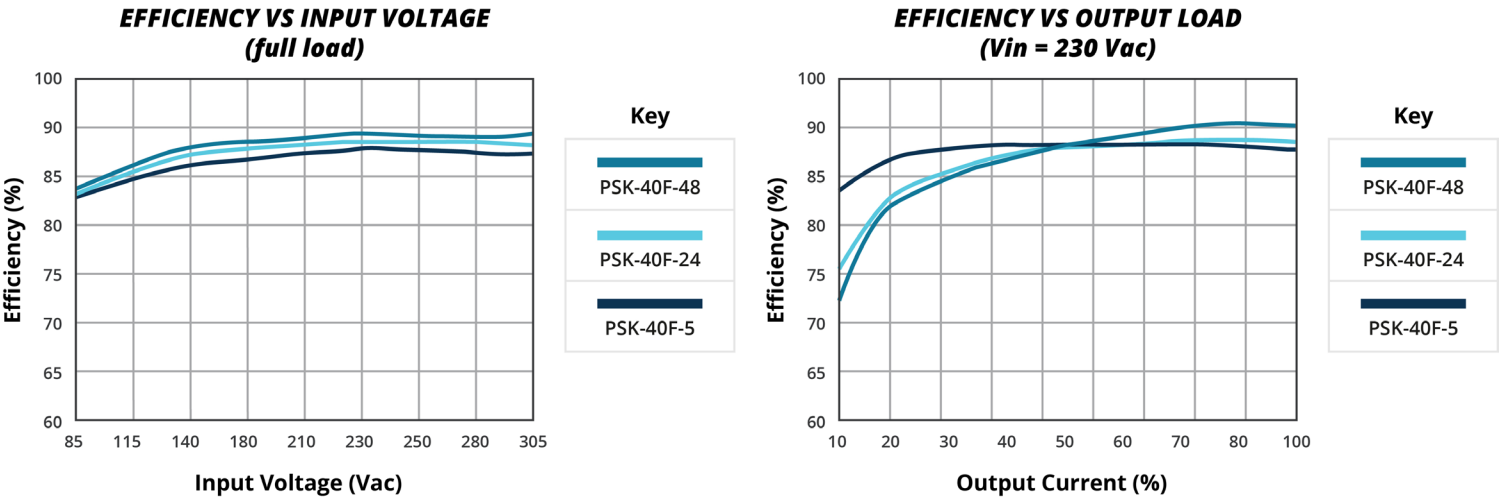
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	69.50 x 39.00 x 24.00 [2.736 x 1.535 x 0.945 inches]				mm
weight			102		g
case material	black plastic, flame-retardant and heat-resistant (UL94V-0)				
cooling method	natural convection				

DERATING CURVES

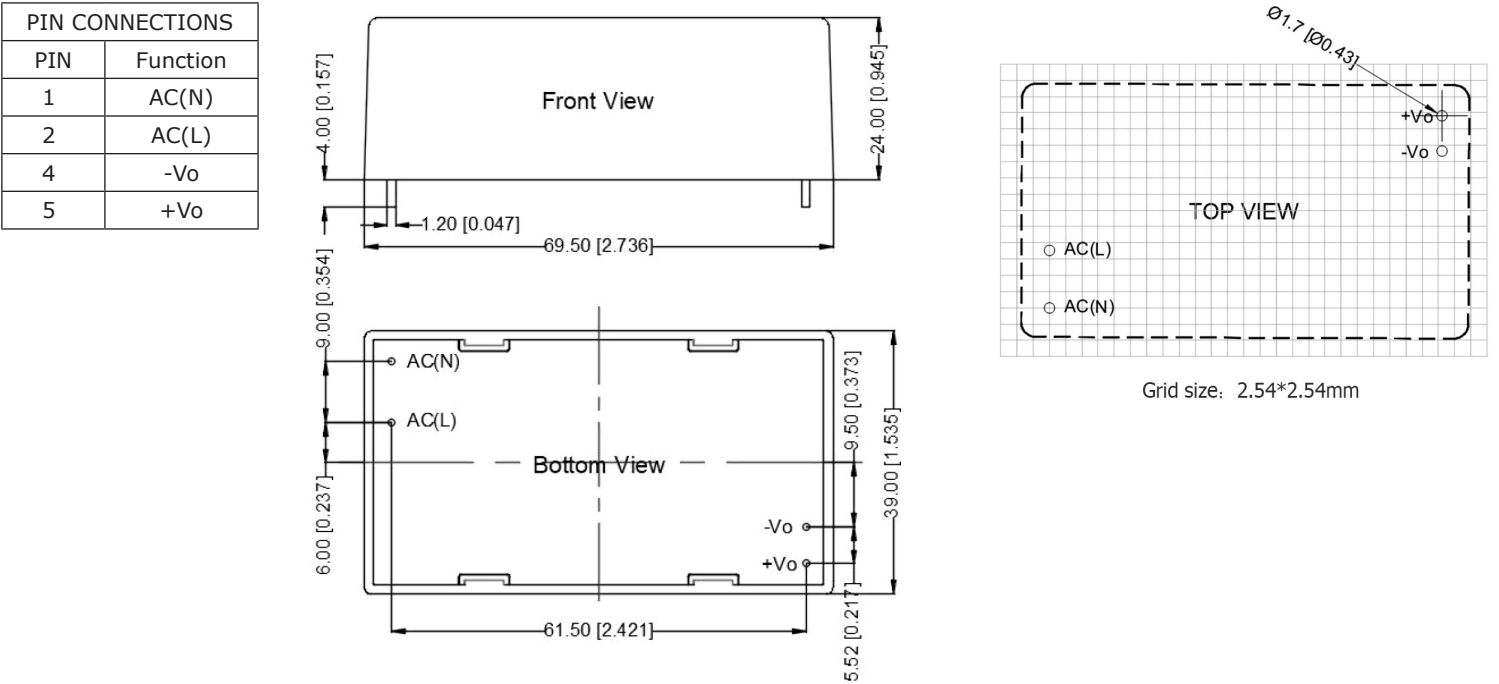


EFFICIENCY CURVES



MECHANICAL DRAWING

units: mm [inch]
pin diameter tolerance: ± 0.1 [± 0.004]
tolerance: ± 0.50 [± 0.020]



APPLICATION DESIGN REFERENCE

Figure 1

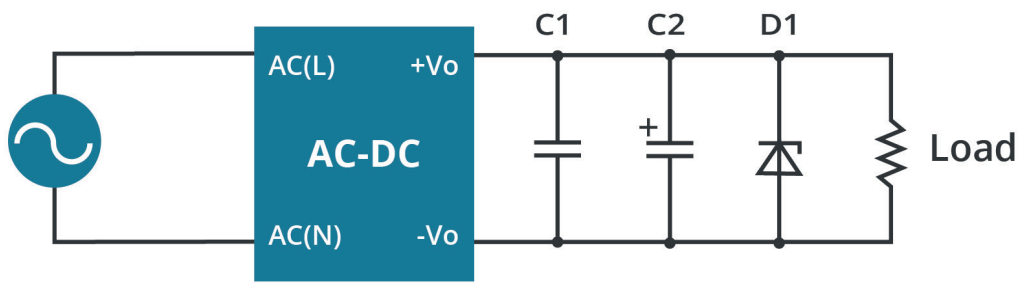


Table 1

Part No.	Fuse	C1	C2	D1
PSK-40F-5	1μF/100V		330μF/16V	see note below
PSK-40F-9/12/15			330μF/25V	
PSK-40F-24			100μF/35V	
PSK-40F-48		1μF/100V	47μF/63V	

Note: D1 is a TVS transistor that can protect the downstream circuit in case of module abnormalities. It is recommended to choose a model that is 1.2 times the output voltage.

EMC RECOMMENDED CIRCUIT

Figure 2

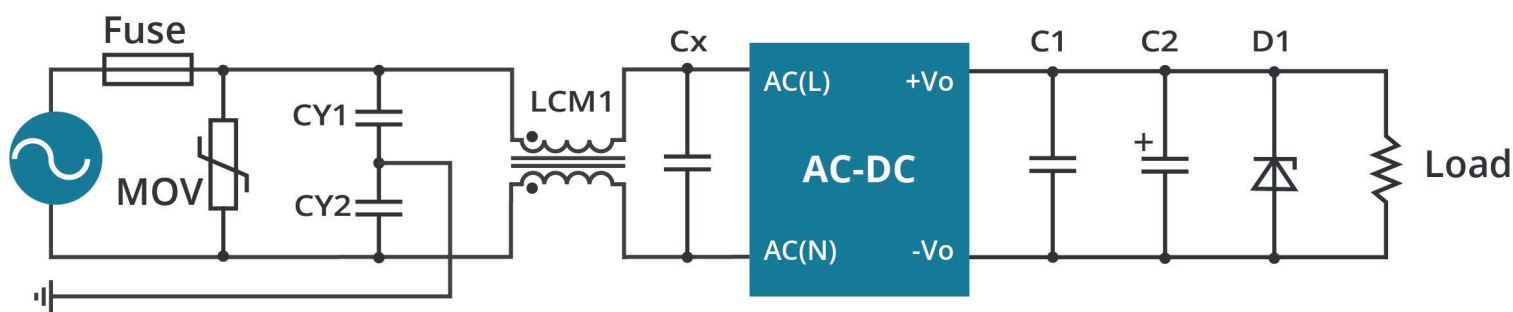


Table 2

Components	Recommended Value
FUSE	3.15A/300V, slow-blow, required
MOV	14D561K
Cx	0.68μF/310Vac
CY1, CY2	1.0nF/400Vac
LCM1	20mH, common mode inductance

Notes:

4. The input voltage should not exceed the specified range value, otherwise it may cause permanent and irreparable damage.

5. It is recommended to use at a load of over 5%. If the load is below 5%, the ripple index of the product may exceed the specifications, but it does not affect the reliability of the product.

REVISION HISTORY

rev.	description	date
1.0	initial release	09/19/2025

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



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