SERIES: PSK-36E | DESCRIPTION: INTERNAL AC-DC POWER SUPPLY

FEATURES

- universal input range (90 ~ 264 Vac)
- Class B emissions (EN 55032/CISPR)
- certified to IEC/EN/UL 62368-1
- designed to meet IEC/EN 60335
- short circuit, over voltage protection
- <0.1 W no-load power consumption
- Class II, Class I (determined at end use)
- 5,000 m operating altitude

MODEL	output voltage typ (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
PSK-36E-5	5	6.0	30	100	85
PSK-36E-12	12	3.0	36	120	88
PSK-36E-15	15	2.4	36	150	88
PSK-36E-24	24	1.5	36	240	89
PSK-36E-48	48	0.75	36	480	89

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope with 0.1μF ceramic capacitor and 10 μF electrolytic capacitor.
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

PSK - 36E - XX

Base Number — Output Voltage

Please read our datasheet & drawing disclaimer here.

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INPUT

parameter	conditions/description	min	typ	max	units
voltage[4]	ac input (safety approved) dc input	90 120	100~240	264 370	Vac Vdc
frequency		47	50~60	63	Hz
current	at 100 Vac, full load			0.9	A
inrush current	at 240 Vac, full load			90	A
leakage current				0.25	mA
no load power consumption				0.1	W

Notes: 4. See the derating curves for more details.

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 48 Vdc output model			6,000 3,000 2,400 1,500 750	µF µF µF µF µF
output voltage set point	5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 48 Vdc output model	4.90 11.76 14.70 23.52 47.02		5.10 12.24 15.30 24.48 48.96	Vdc Vdc Vdc Vdc Vdc
voltage accuracy	5 Vdc output model all other output models		±2 ±1		% %
line regulation	high line to low line			±0.5	%
load regulation	10 % to 100 % load			±1.0	%
hold-up time	at 115 Vac		8		ms
switching frequency			65		kHz

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch mode 5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 48 Vdc output model			 7.44 16.8 21.5 31.5 63.0	 Vdc Vdc Vdc Vdc Vdc
over current protection	auto recovery, hiccup	110		180	%
short circuit protection	auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 1 minunte			4,000	Vdc
safety approvals	certified to 62368-1: IEC, EN, UL designed to meet 60335-1: EN				
safety class	Class II, Class I (determined at end use)				
EMC	EN 55032:2015+A11:2020, EN 61204-3:2018, EN IEC 61000-6-3:2021, EN IEC 61000-6-4:2019, EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, Class B				
EMC immunity	EN 55035:2017+A11:2020, EN 61204-3:2018, EN IEC 61000-6-1:2019, EN IEC 61000-6-2:2019				
conducted emissions	EN 55032:2015+A11:2020, EN 61204-3:2018, EN IEC 61000-6-3:2021, EN IEC 61000-6-4:2019, Class B				
radiated emissions	EN 55032:2015+A11:2020, EN 61204-3:2018, EN IEC 61000-6-3:2021, EN IEC 61000-6-4:2019, Class B				
ESD	IEC 61000-4-2:2008, perf. Criteria A				

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SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
radiated immunity	IEC 61000-4-3:2020, perf. Criteria A				
EFT/burst	IEC 61000-4-4:2012, ±1 kV, ±2 kV, perf. Criteria A				
surge	IEC 61000-4-5:2014+A1:2017, L-N: ±0.5 kV, ±1 kV, L-E(Ground): ±0.5 kV, ±1 kV, ±2 kV, perf. Criteria A				
conducted immunity	IEC 61000-4-6:2013+COR1:2015, perf. Criteria A				
PFMF	IEC 61000-4-8:2009, perf. Criteria A				
voltage dips	IEC 61000-4-11:2020, Dip: 30% Reduction, Dip >95% Reduction, perf. Criteria A				
voltage interruption	IEC 61000-4-11:2020, >95% Reduction, perf. Criteria B				
MTBF	as per MIL-HDBK-217F at 25°C	700,000			hours
RoHS	yes				

ENVIRONMENTAL

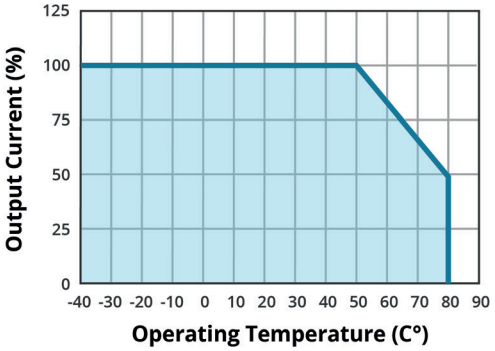
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve (safety approved at maximum 50°C)	-40		80	°C
storage temperature		-40		85	°C
storage humidity	non-condensing	0		93	%
altitude	IEC/EN/UL 62368-1 OVC II designed to meet EN 60335-1 OVC II			5,000 2,000	m m

MECHANICAL

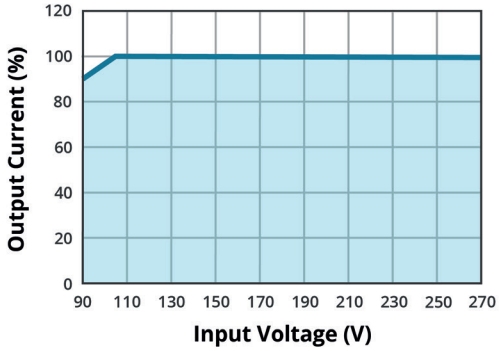
parameter	conditions/description	min	typ	max	units
dimensions	3.100 x 1.600 x 1.134 [78.8 x 40.7 x 28.80 mm]				inch
weight			156		g

DERATING CURVE

TEMPERATURE DERATING CURVE (natural convection)



INPUT VOLTAGE DERATING CURVE



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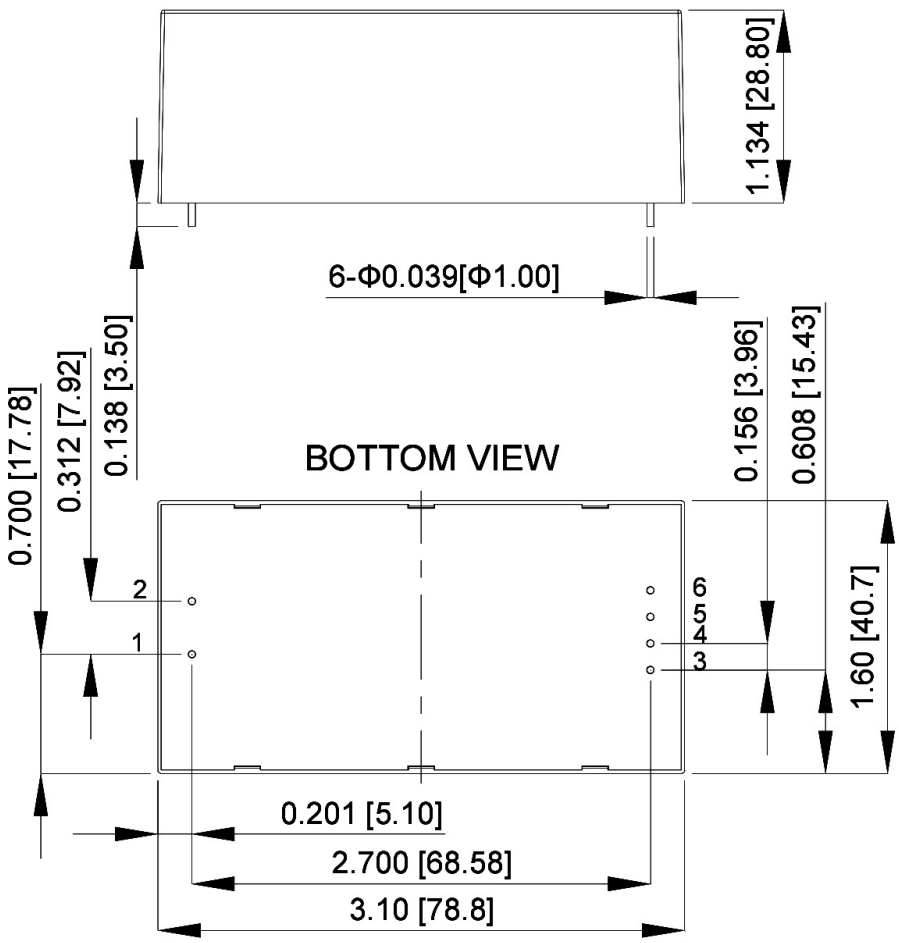
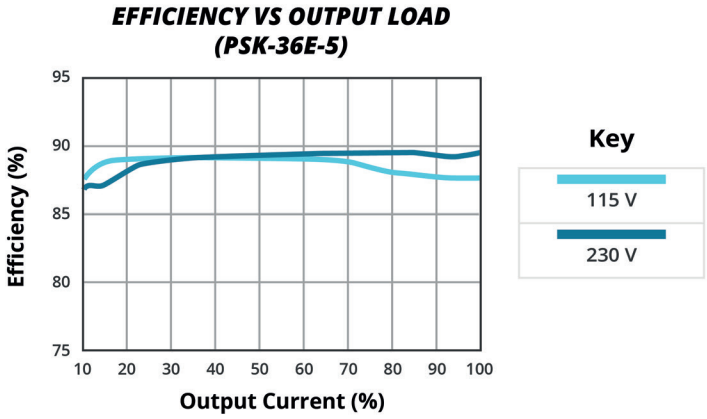
MECHANICAL DRAWING

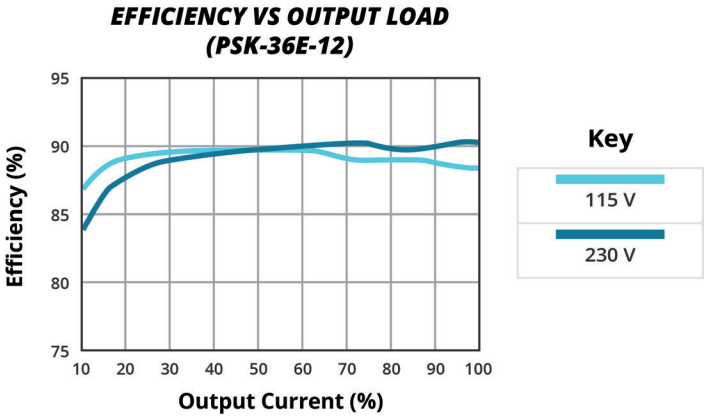
units: inch [mm]
tolerance: inches: x.xx = ±0.03, x.xxx = ±0.020
mm: x.x - ±0.7, x.xx = ±0.50

PIN CONNECTIONS	
PIN	Function
1	AC(N)
2	AC(L)
3	+Vout
4	+Vout
5	-Vout
6	-Vout



EFFICIENCY CURVES





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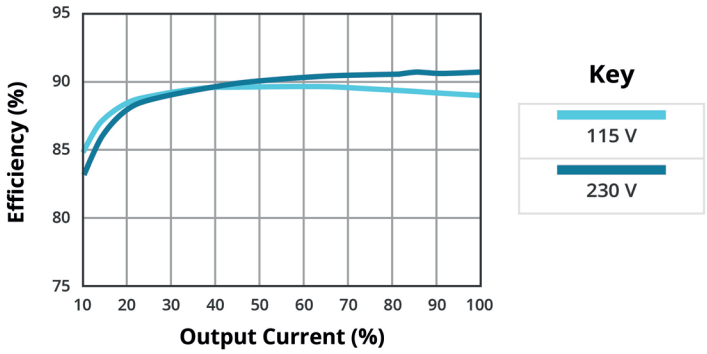
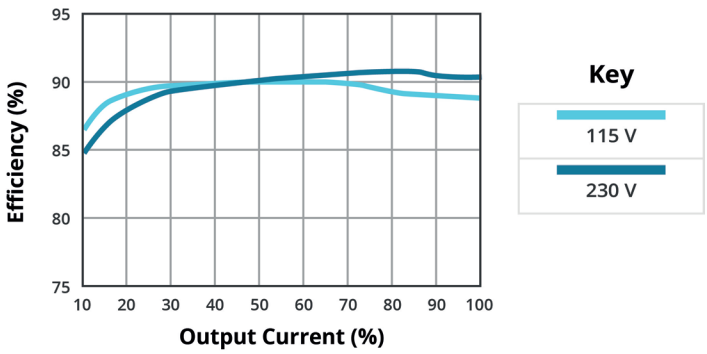
EFFICIENCY CURVES (CONTINUED)

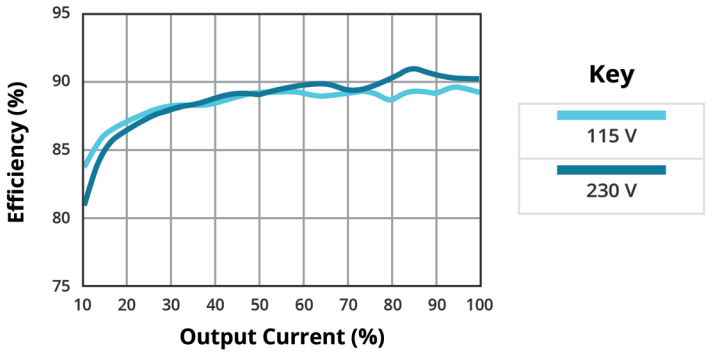
EFFICIENCY VS OUTPUT LOAD (PSK-36E-15)



EFFICIENCY VS OUTPUT LOAD (PSK-36E-24)

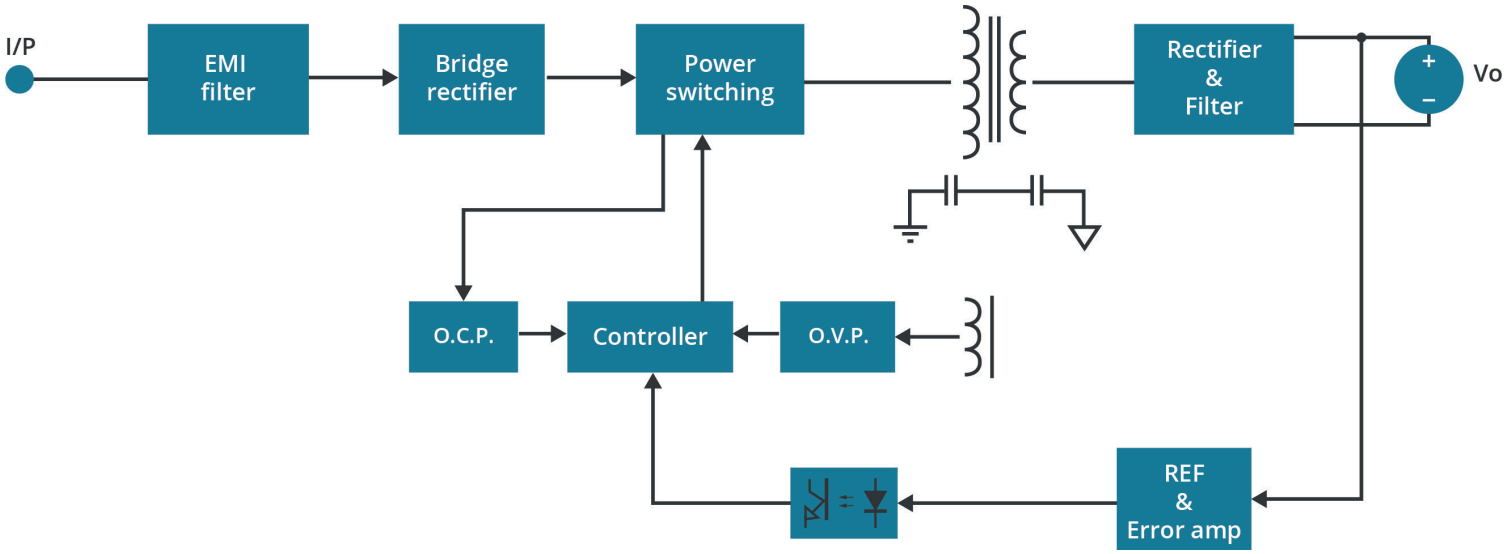


EFFICIENCY VS OUTPUT LOAD (PSK-36E-48)



ELECTRICAL BLOCK DIAGRAM

Figure 1



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REVISION HISTORY

rev.	description	date
1.0	initial release	10/15/2024
1.01	safeties updated	12/20/2024

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

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