

# KAS03 SERIES

AC - DC POWER MODULE  
3W SINGLE OUTPUT



## FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC, 47 - 440Hz
- HIGH EFFICIENCY UP TO 77%
- SHORT CIRCUIT PROTECTION
- COMPLY WITH ErP
- 3 YEARS WARRANTY



## MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)	CAPACITOR LOAD (max.)
<b>Single Output Models</b>								
KAS0303	85~265 VAC	3 WATTS	+ 3.3 VDC	900 mA	64%	66%	65%	3300 $\mu$ F
KAS0305	85~265 VAC	3 WATTS	+ 5 VDC	600 mA	68%	70%	65%	3300 $\mu$ F
KAS0309	85~265 VAC	3 WATTS	+ 9 VDC	335 mA	71%	73%	70%	1500 $\mu$ F
KAS0312	85~265 VAC	3 WATTS	+ 12 VDC	250 mA	73%	75%	70%	1200 $\mu$ F
KAS0315	85~265 VAC	3 WATTS	+ 15 VDC	200 mA	73%	75%	70%	1000 $\mu$ F
KAS0324	85~265 VAC	3 WATTS	+ 24 VDC	125 mA	75%	77%	70%	470 $\mu$ F

## SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL					
Characteristics	Conditions	min.	typ.	max.	unit
Switching frequency	Vi nom, Io nom		100		KHz
Isolation voltage	Input - Output	3,000/4,242			VAC/VDC
Isolation resistance	Input - Output, @ 500VDC	100			M $\Omega$
Ambient temperature	Operating at Vi nom, Io nom	-40		+ 71	°C
Case temperature	Operating at Vi nom, Io nom			+ 85	°C
Derating	Vi nom, +61 to + 71°C			4	% / °C
Storage temperature	Non operational	-40		+100	°C
Relative humidity	Vi nom, Io nom	20		95	% RH

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## AC - DC POWER MODULE

### SPECIFICATION

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#### GENERAL

Characteristics	Conditions	min.	typ.	max.	unit
Temperature coefficient	Vi nom, Io min			± 0.03	% / °C
MTBF	Bellcore issue 6 @40°C, GB	3.3V	1,620,000		Hours
		5V & 9V	1,685,000		Hours
		12V & 15V	1,720,000		Hours
		24V	1,775,000		Hours
Altitude during operation	IEC 60068-2-13			4,850	m
Dimension		L37 x W23 x H15.16			mm
Cooling	Free air convection				

#### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Rated input voltage	Io nom	100		240	VAC
Input voltage range	Ta min ... Ta max, Io nom	AC in	85	265	VAC
		DC in	120	375	VDC
Input current	Vi : 115 / 230 VAC, Io nom		90 / 40		mA
Rated input current	Vi : 85 VAC, Io nom			150	mA
Line frequency	Vi nom, Io nom	47		440	Hz
Inrush current	Vi : 115 / 230 VAC, Io nom			10/18	A
Leakage current	Input - Output			0.25	mA
Standby power consumption	Vi nom, Io = No Load			0.3	W

#### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom			± 3	%
Minimum load	Vi nom	0			%
Line regulation	Io nom, Vi min ... Vi max			± 3	%
Load regulation	Vi nom, Io min ... Io nom			± 5	%
Hold up time	Vi: 115/230 VAC, Io nom	15 / 30			ms
Turn on time	Vi nom, Io nom			1,000	ms
Rise time	Vi nom, Io nom			150	ms
Fall time	Vi nom, Io nom			150	ms
Transient recovery time	Vi nom, I ~ 0.5 Io nom			2	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz			100	mV
Efficiency	Vi nom, Io nom, Po / Pi	Up to 77%, See model list and typ efficiency curve			

#### CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T1A / 250VAC internal			
Output short circuit		Hiccup mode			
Rated over load protection	Vi nom (see typ current limited curve)	130		180	%

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### APPROVALS AND STANDARDS

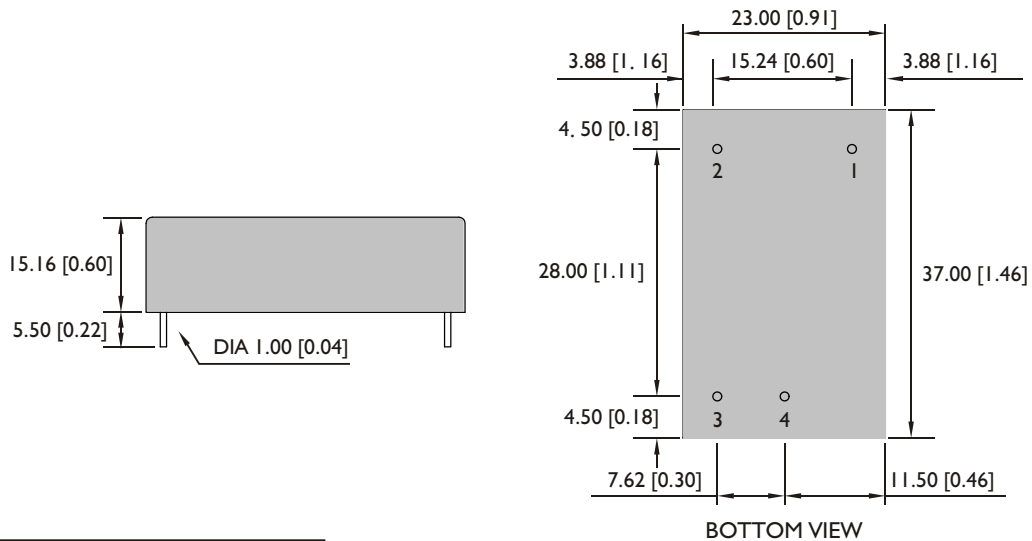
cTUVus	UL 60950-1
TUV	EN 60950-1
CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 axes, 6 Faces, 3 times for each Face)

### PHYSICAL CHARACTERISTICS

Case size	37 x 23 x 15.16mm ( 1.46 x 0.91 x 0.6 inches)
Case material	Plastic
Weight	25g
Potting material	Epoxy

### MECHANISM & PIN CONFIGURATION

mm [inch]



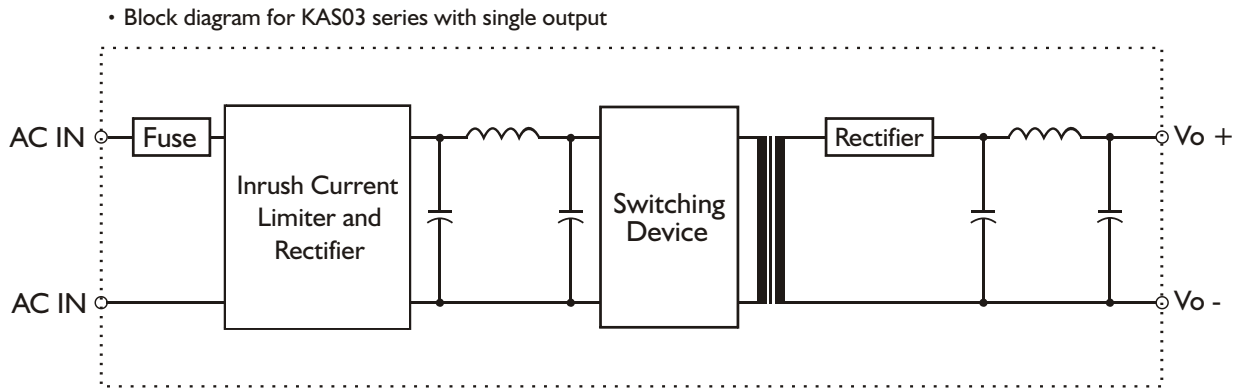
GENERAL TOLERANCE	
0.00[0.00] - 30.00[1.18]	±0.30[0.01]
30.00[1.18] - 120.00[4.72]	±0.50[0.02]

### PIN ASSIGNMENT

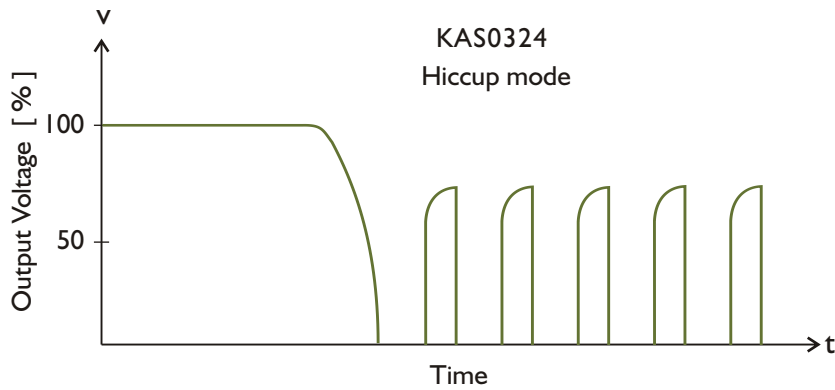
#### GENERAL

PIN NO.	1	2	3	4
SINGLE	AC IN	AC IN	Vo +	Vo -

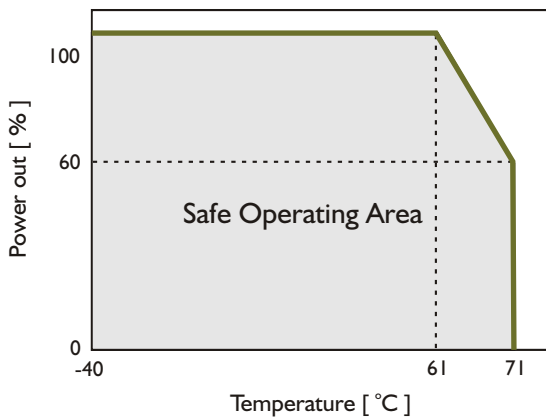
### CIRCUIT SCHEMATIC



### TYP. CURRENT LIMITED CURVE



### DERATING CURVE



### TYP. EFFICIENCY CURVE

