

## AC - DC POWER MODULE 10W SINGLE OUTPUT



### FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC, 47 - 440Hz
- HIGH EFFICIENCY UP TO 82%
- 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>								
KAS1003	85~265 VAC	8.2 WATTS	+ 3.3 VDC	2500 mA	72%	74%	72%	7000 $\mu$ F
KAS1005	85~265 VAC	10 WATTS	+ 5 VDC	2000 mA	77%	79%	74%	7000 $\mu$ F
KAS1009	85~265 VAC	10 WATTS	+ 9 VDC	1120 mA	78%	80%	77%	3300 $\mu$ F
KAS1012	85~265 VAC	10 WATTS	+ 12 VDC	840 mA	80%	82%	77%	2200 $\mu$ F
KAS1015	85~265 VAC	10 WATTS	+ 15 VDC	670 mA	80%	82%	77%	1500 $\mu$ F
KAS1024	85~265 VAC	10 WATTS	+ 24 VDC	420 mA	80%	82%	77%	680 $\mu$ 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			132		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, +51 to + 71°C	3.3V & 5V			2	% / °C
	Vi nom, +61 to + 71°C	Other			4	% / °C
Storage temperature	Non operational		-40		+100	°C
Relative humidity	Vi nom, Io nom		20		95	% RH

### 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		850,000		Hours
		5V & 9V		860,000		Hours
		12V & 15V		880,000		Hours
		24V		925,000		Hours
Altitude during operation	EN 62368-1				5,000	m
Dimension			L52.4 x W27.2 x H22.8			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			210 / 145		mA
Rated input current	Vi : 85 VAC, Io nom				300	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				± 2	%
Minimum load	Vi nom		0			%
Line regulation	Io nom, Vi min ... Vi max				± 1	%
Load regulation	Vi nom, Io min ... Io nom				± 2	%
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 82%, 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

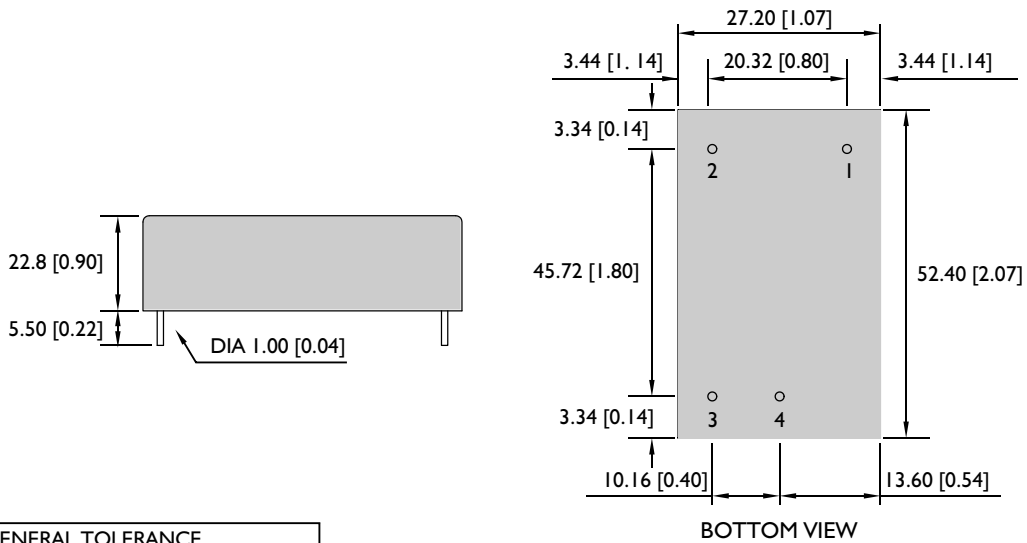
cTUVus	UL 62368-1
TUV	EN 62368-1
CE	EN 61000-6-3, EN 55032 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along X, Y, Z each 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	52.4 x 27.2 x 22.8mm ( 2.06 x 1.07 x 0.9 inches)
Case material	Plastic
Weight	55g
Potting material	Epoxy

### MECHANISM & PIN CONFIGURATION

mm [inch]



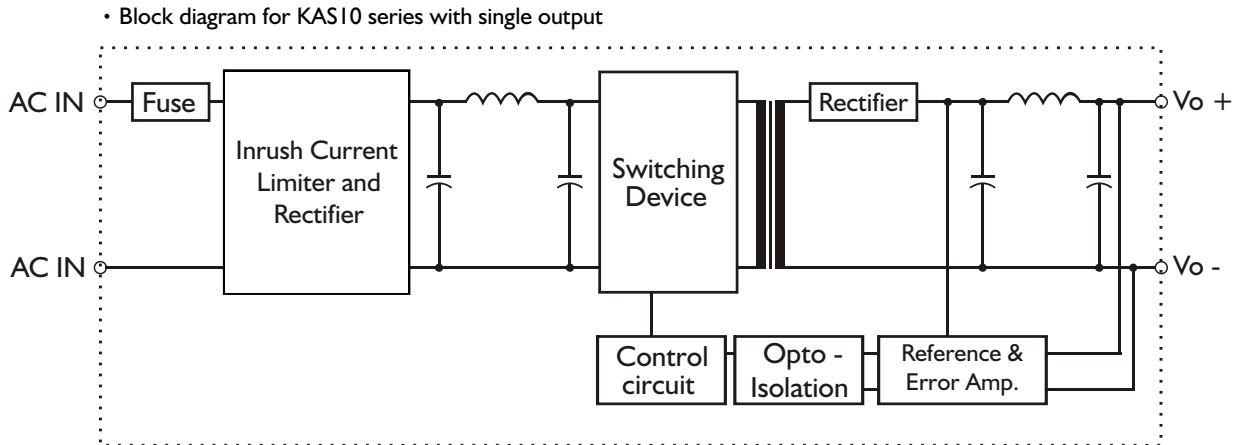
GENERAL TOLERANCE	
0.00[0.00] - 30.00[1.18]	±0.30[0.01]
30.00[1.18] - 120.00[4.72]	±0.50[0.02]

### PIN ASSIGNMENT

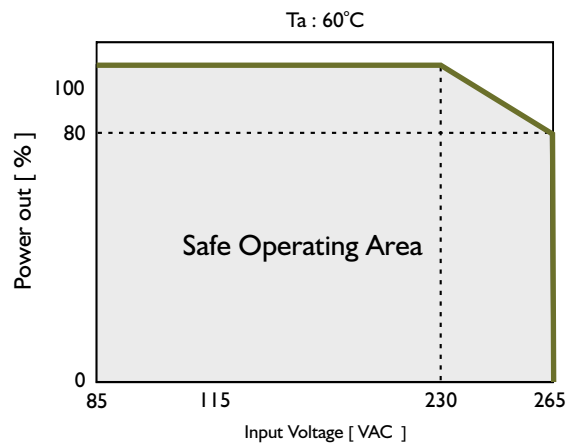
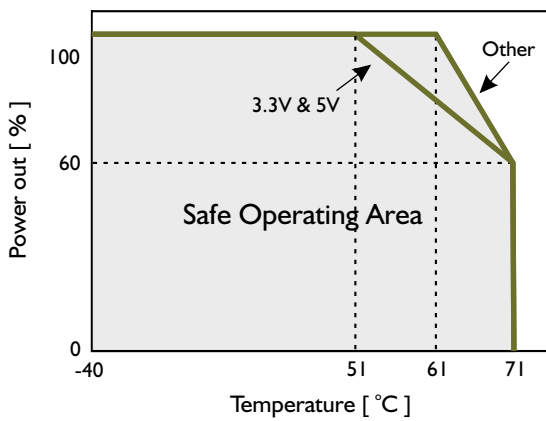
#### GENERAL

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

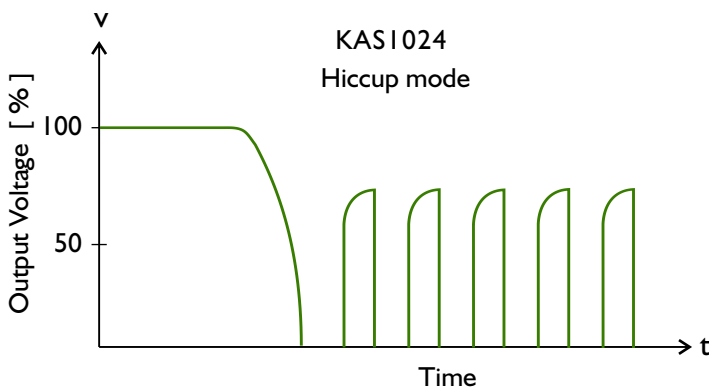
### CIRCUIT SCHEMATIC



### DERATING CURVE



### TYP. CURRENT LIMITED CURVE



### TYP. EFFICIENCY CURVE

