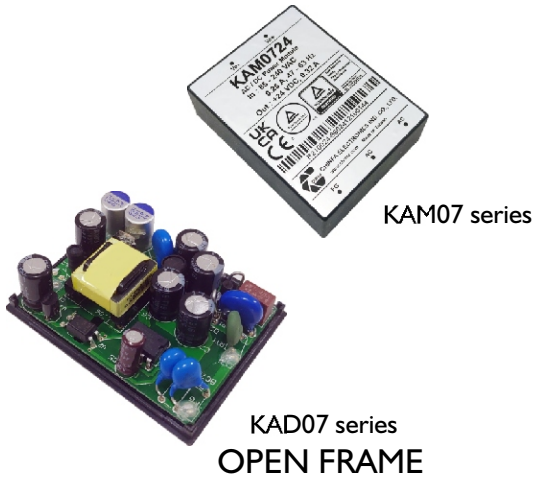


# KAD / KAM07 SERIES



AC - DC POWER MODULE  
6.3 ~ 7.6W SINGLE & DUAL OUTPUT

## FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 65 ~ 265 VAC
- HIGH EFFICIENCY UP TO 80%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- COMPLY WITH ErP (except Dual model)
- 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>								
KAM0703 / KAD0703	65~265 VAC	6.6 WATTS	+ 3.3 VDC	2000 mA	70%	72%	71%	7000 $\mu$ F
KAM0705 / KAD0705	65~265 VAC	7.5 WATTS	+ 5 VDC	1500 mA	73%	75%	71%	7000 $\mu$ F
KAM0712 / KAD0712	65~265 VAC	7.5 WATTS	+ 12 VDC	630 mA	77%	79%	75%	1000 $\mu$ F
KAM0715 / KAD0715	65~265 VAC	7.5 WATTS	+ 15 VDC	500 mA	78%	80%	75%	1000 $\mu$ F
KAM0724 / KAD0724	65~265 VAC	7.6 WATTS	+ 24 VDC	320 mA	78%	80%	75%	560 $\mu$ F
<b>Dual Output Models</b>								
KAM0712D / KAD0712D	65~265 VAC	7.6 WATTS	$\pm$ 12 VDC	$\pm$ 320 mA	77%	79%		$\pm$ 680 $\mu$ F
KAM0715D / KAD0715D	65~265 VAC	7.5 WATTS	$\pm$ 15 VDC	$\pm$ 250 mA	78%	80%		$\pm$ 680 $\mu$ F
KAM07503D / KAD07503D	65~265 VAC	6.3 WATTS	+3.3 / + 5 VDC	+1 A / +0.6A	68%	70%		2200 $\mu$ F / 2200 $\mu$ F
KAM07512D / KAD07512D	65~265 VAC	6.6 WATTS	+5 / +12 VDC	+0.6A / +0.3A	75%	77%		2200 $\mu$ F / 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	
	Input - FG	1,500/2,121			VAC/VDC	
	Output-FG	500 / 710			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 KAM07			+ 85	°C	
Derating	Vi nom, +61 to + 71°C			2.5	% / °C	
Storage temperature	Non operational	-40		+100	°C	
Relative humidity	Vi nom, Io nom	20		95	% RH	

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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 & 503D		1,500,000		Hours
		5V & 512D		1,520,000		Hours
		12V & 15V		1,540,000		Hours
		24V, 12D & 15D		1,570,000		Hours
Altitude during operation	IEC 60068-2-13				4,850	m
Dimension			KAM07	L58 x W45 x H18.5		mm
			KAD07	L58 x W45 x H17.5		mm
Cooling	Free air convection					

#### INPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Rated input voltage	Io nom		85		240	VAC
Input voltage range	Ta min ... Ta max, Io nom	AC in	65		265	VAC
		DC in	90		375	VDC
Input current	Vi : 115 / 230 VAC, Io nom			160 / 110		mA
Rated input current	Vi : 85 VAC, Io nom				250	mA
Line frequency	Vi nom, Io nom		47		63	Hz
Inrush current	Vi : 115 / 230 VAC, Io nom				12 / 24	A
Leakage current	Input - Output				0.25	mA
	Input - FG				3.5	mA

#### OUTPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom				± 2	%
Minimum load	Vi nom	single output models	0			%
		dual output models (each output)	20			%
Line regulation	Io nom, Vi min ... Vi max				± 1	%
Load regulation	Vi nom, Io min ... Io nom	single output models			± 2	%
		dual output models			± 5	%
Cross regulation (Dual model)	Asymmetrical load 20% - 100% FL				± 6	%
Hold up time	Vi: 115/230 VAC, Io nom		25/100			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, 1~0.5 Io nom				1	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz	3.3V			60	mV
		5V, 12V, 15V, 24V & dual			100	mV
Efficiency	Vi nom, Io nom, Po / Pi		Up to 80%, See model list and typ efficiency curve			

#### CONTROL AND PROTECTION

Characteristics	Conditions		min.	typ.	max.	unit
Input fuse			T1A / 250VAC internal			
Internal surge voltage protection	IEC 61000-4-5		Varistor			
Output short circuit			Hiccup mode			
Rated over load protection	Vi nom (see typ current limited curve)		125		185	%

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### APPROVALS AND STANDARDS

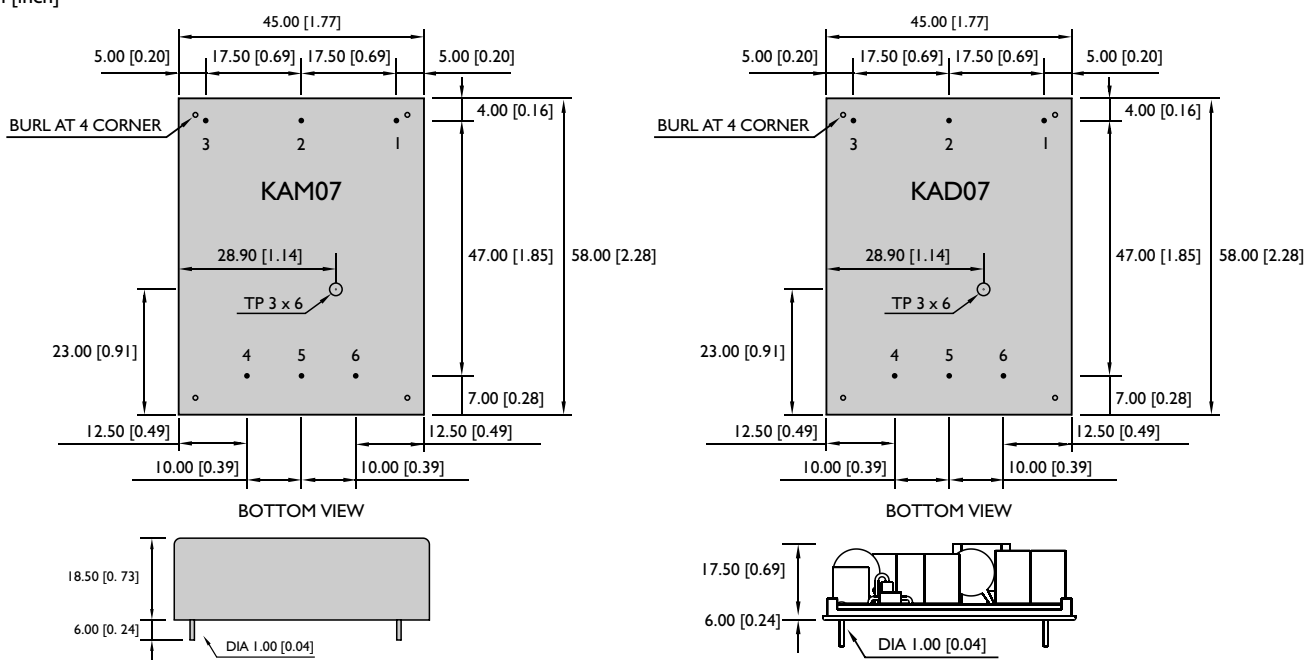
UL / cUL	UL 60950-1 Recognized
TUV	EN 62368-1
cTUVus	UL 62368-1
CE	EN 61000-6-3, EN 55032 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11 ms, 3 axes, 6 Faces, 3 times for each Face)

### PHYSICAL CHARACTERISTICS

Case size	KAM07 : 58 x 45 x 18.5mm ( 2.28 x 1.77 x 0.73 inches)	KAD07 : 58 x 45 x 17.5mm ( 2.28 x 1.77 x 0.70 inches)
Case (Base) material	Plastic	
Weight	KAM07 : 85g	KAD07 : 50g
Potting material	KAM07 : 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]

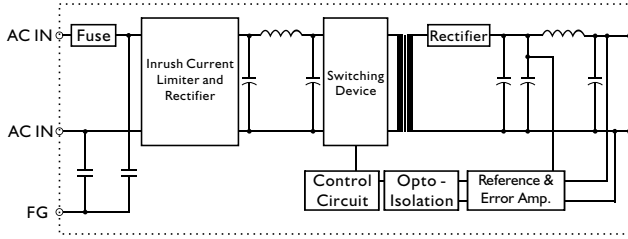
### PIN ASSIGNMENT

#### GENERAL

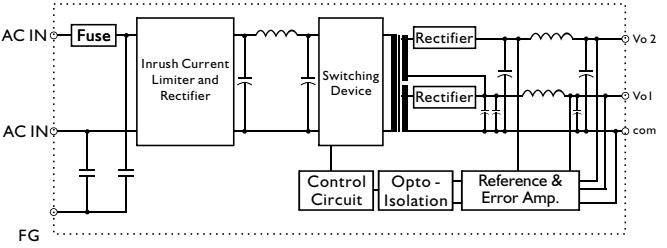
PIN NO.	1	2	3	4	5	6	
SINGLE	AC IN	AC IN	F. G.	Vo -	NO PIN	Vo +	
DUAL	12D, 15D	AC IN	AC IN	F. G.	Vo -	com	Vo +
	503D	AC IN	AC IN	F. G.	+ 5V	com	+3.3V
	512D	AC IN	AC IN	F. G.	+ 12V	com	+5V

### CIRCUIT SCHEMATIC

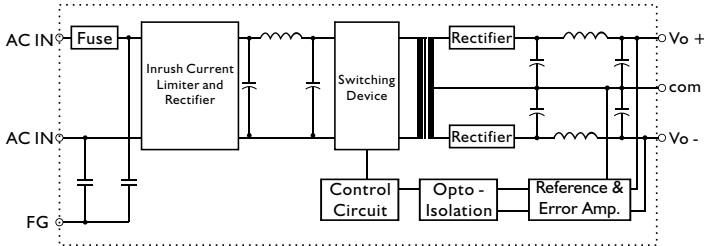
• Block diagram for KAM(D)07 series with single output



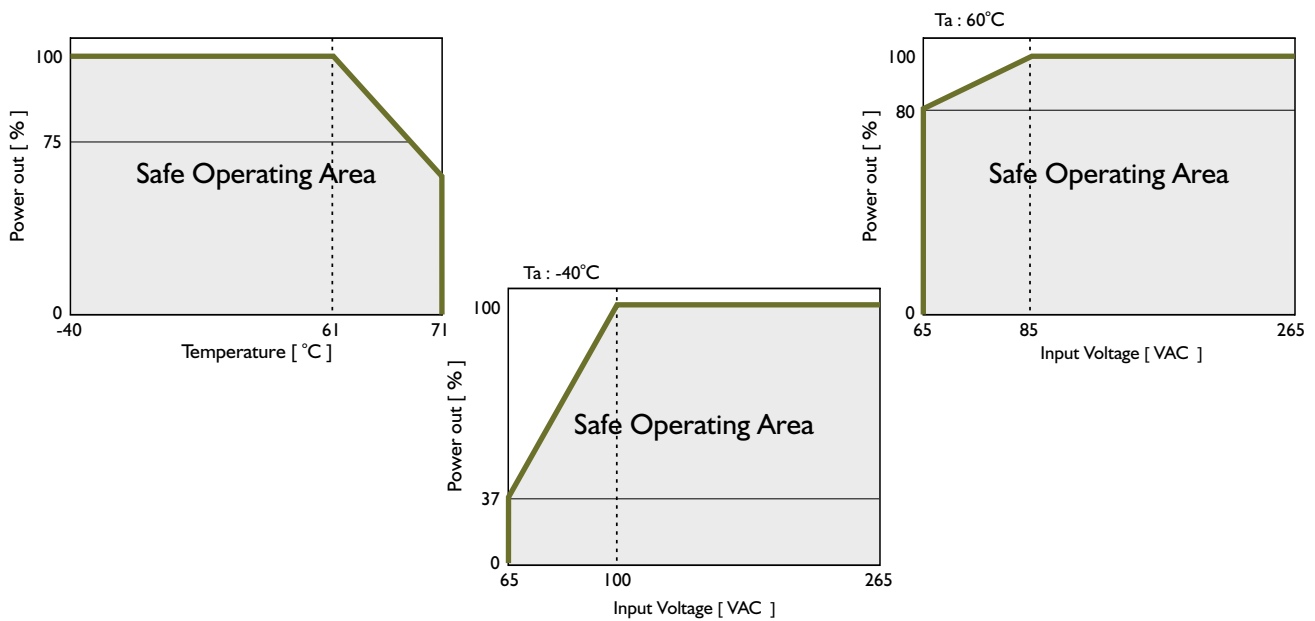
• Block diagram for KAM(D)07503D & KAM07512D



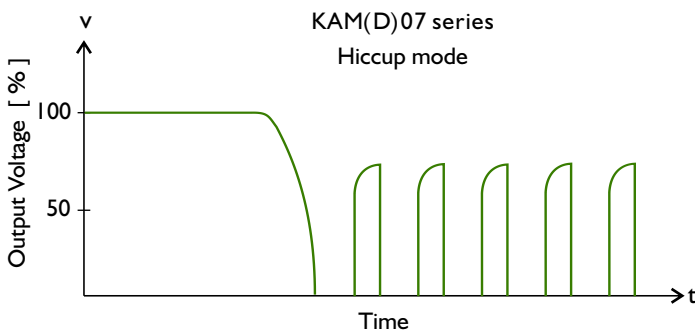
• Block diagram for KAM(D)07 series with dual output



### DERATING CURVE



### TYP. CURRENT LIMITED CURVE



### TYP. EFFICIENCY CURVE

