

KAD / KAM07 SERIES



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

FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 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.)
Single Output Models								
KAM0703 / KAD0703	85~265 VAC	6.6 WATTS	+ 3.3 VDC	2000 mA	70%	72%	71%	7000 μ F
KAM0705 / KAD0705	85~265 VAC	7.5 WATTS	+ 5 VDC	1500 mA	73%	75%	71%	7000 μ F
KAM0712 / KAD0712	85~265 VAC	7.5 WATTS	+ 12 VDC	630 mA	77%	79%	75%	1000 μ F
KAM0715 / KAD0715	85~265 VAC	7.5 WATTS	+ 15 VDC	500 mA	78%	80%	75%	1000 μ F
KAM0724 / KAD0724	85~265 VAC	7.6 WATTS	+ 24 VDC	320 mA	78%	80%	75%	560 μ F
Dual Output Models								
KAM0712D / KAD0712D	85~265 VAC	7.6 WATTS	\pm 12 VDC	\pm 320 mA	76%	78%		\pm 680 μ F
KAM0715D / KAD0715D	85~265 VAC	7.5 WATTS	\pm 15 VDC	\pm 250 mA	76%	78%		\pm 680 μ F
KAM07503D / KAD07503D	85~265 VAC	6.3 WATTS	+3.3 / + 5 VDC	+1 A / +0.6A	66%	68%		2200 μ F / 2200 μ F
KAM07512D / KAD07512D	85~265 VAC	6.6 WATTS	+5 / +12 VDC	+0.6A / +0.3A	75%	77%		2200 μ F / 680 μ 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 Ω	
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, +5 l to + 71°C			2	% / °C	
Storage temperature	Non operational	-40		+ 100	°C	
Relative humidity	Vi nom, Io nom	20		95	% RH	

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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	85		265	VAC
		DC in	120		375	VDC
Input current	Vi : 115 / 230 VAC, Io nom			160 / 120		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		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, 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 79%, 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

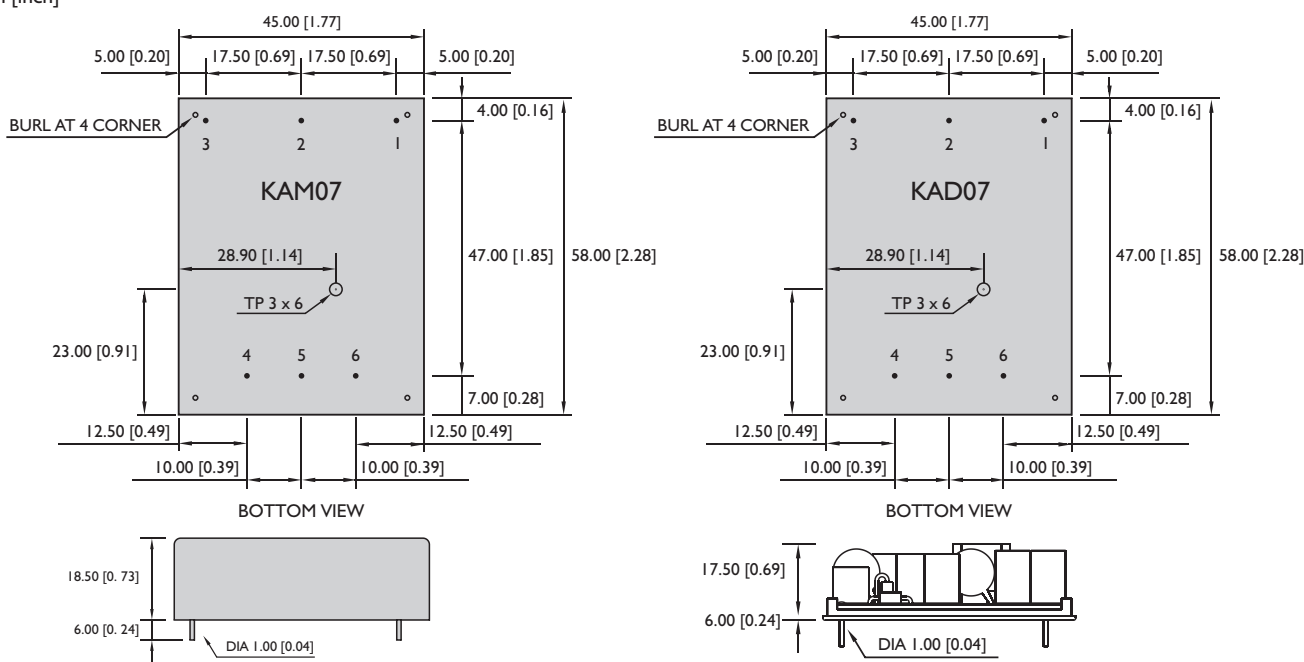
UL / cUL	UL 60950-1, Recognized
TUV	EN 60950-1
CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 2G, along 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	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]

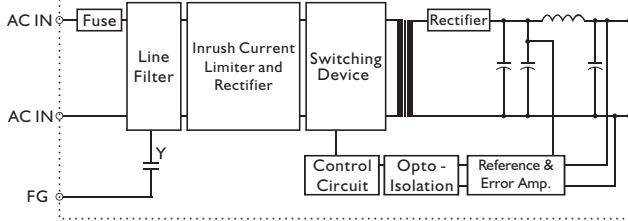
PIN ASSIGNMENT

GENERAL

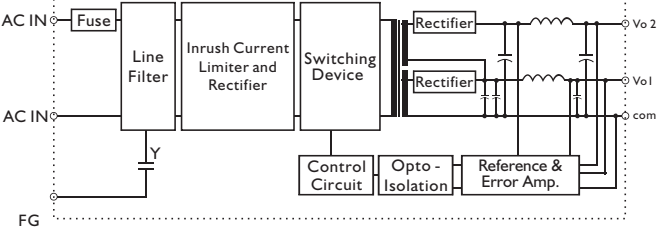
PIN NO.	1	2	3	4	5	6	
SINGLE	AC IN	AC IN	F. G.	Vo -	NO PIN	Vo +	
DUAL	12D, 15D	AC IN	AC IN	F. G.	Vo -	com	Vo +
	503D	AC IN	AC IN	F. G.	+ 5V	com	+3.3V
	512D	AC IN	AC IN	F. G.	+ 12V	com	+5V

CIRCUIT SCHEMATIC

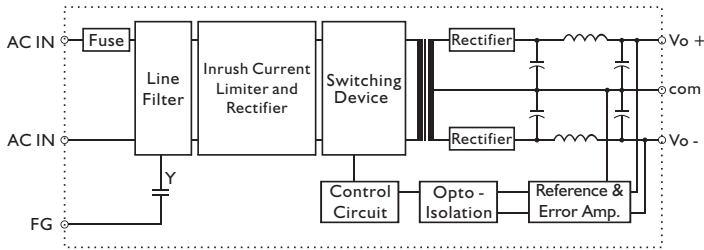
• Block diagram for KAM(D)07 series with single output



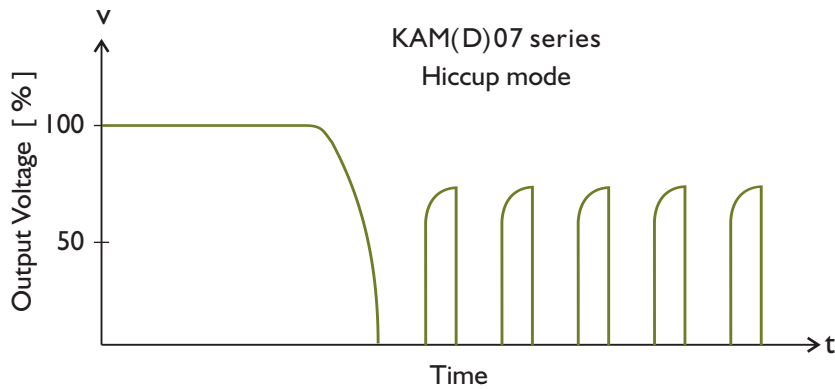
• Block diagram for KAM(D)07503D & KAM07512D



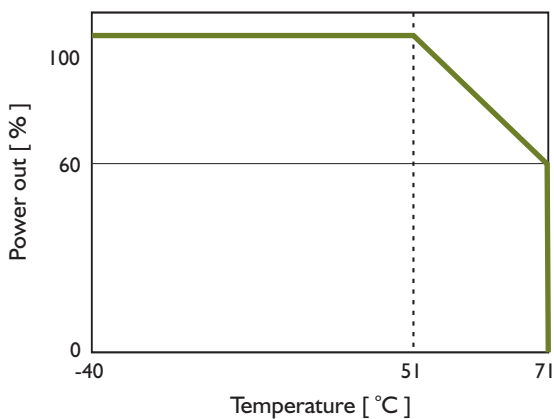
• Block diagram for KAM(D)07 series with dual output



TYP. CURRENT LIMITED CURVE



DERATING CURVE



TYP. EFFICIENCY CURVE

