

KAD07 SERIES



OPEN FRAME
AC - DC POWER MODULE
6.3 ~ 7.6W UL / cUL / TUV / CE

FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 85 ~ 265 VAC
- HIGH EFFICIENCY UP TO 79%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY



MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	CAPACITOR LOAD (max.)
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Single Output Models

KAD0703	85~265 VAC	6.6 WATTS	+3.3 VDC	2000 mA	69%	72%	7000 μ F
KAD0705	85~265 VAC	7.5 WATTS	+ 5 VDC	1500 mA	72%	75%	7000 μ F
KAD0712	85~265 VAC	7.5 WATTS	+ 12 VDC	630 mA	75%	78%	7000 μ F
KAD0715	85~265 VAC	7.5 WATTS	+ 15 VDC	500 mA	75%	78%	7000 μ F
KAD0724	85~265 VAC	7.6 WATTS	+ 24 VDC	320 mA	77%	79%	7000 μ F

Dual Output Models

KAD0712D	85~265 VAC	7.6 WATTS	\pm 12 VDC	\pm 320 mA	74%	77%	\pm 3500 μ F
KAD0715D	85~265 VAC	7.5 WATTS	\pm 15 VDC	\pm 250 mA	75%	78%	\pm 3500 μ F
KAD07503D	85~265 VAC	6.3 WATTS	+ 3.3 / + 5 VDC	+ 1A / +0.6A	65%	68%	3500 μ F
KAD07512D	85~265 VAC	6.6 WATTS	+ 5 / + 12 VDC	+0.6A / +0.3A	72%	75%	3500 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	80		100	KHz
Isolation voltage	Input - Output	3000/4242			VAC/VDC
	Input - FG	1500/2121			VAC/VDC
Isolation resistance	Input - Output, @ 500VDC	100			M Ω
Ambient temperature	Operating at Vi nom, Io nom	-40		+ 71	°C
Derating	Vi nom, +51 to + 71°C			2	% / °C
Storage temperature	Non operational	-40		+ 100	°C
Relative humidity	Vi nom, Io nom	20		95	% RH
Temperature coefficient	Vi nom, Io min			\pm 0.03	% / °C

SPECIFICATION

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GENERAL

Characteristics	Conditions	min.	typ.	max.	unit
MTBF	Bellcore issue 6 @40°C, GB	3.3V & 503D models		1510000	Hours
		5V & 512D models		1530000	Hours
		12V & 15V models		1550000	Hours
		24V, 12D & 15D models		1580000	Hours
Altitude during operation	IEC 60068-2-13			4850	m
Dimension		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		265	VAC
		DC in	120		375
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			10/18	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			1000	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			1	ms
Ripple & noise	Vi nom, Io nom, BW = 20MHz	3.3V model		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		T2A / 250VAC internal			
Internal surge voltage protection	IEC 61000-4-5	Varistor			
Output short circuit		Fold forward			
Rated over load protection	Vi nom (see typ current limited curve)	130		170	%

SPECIFICATION

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APPROVALS AND STANDARDS

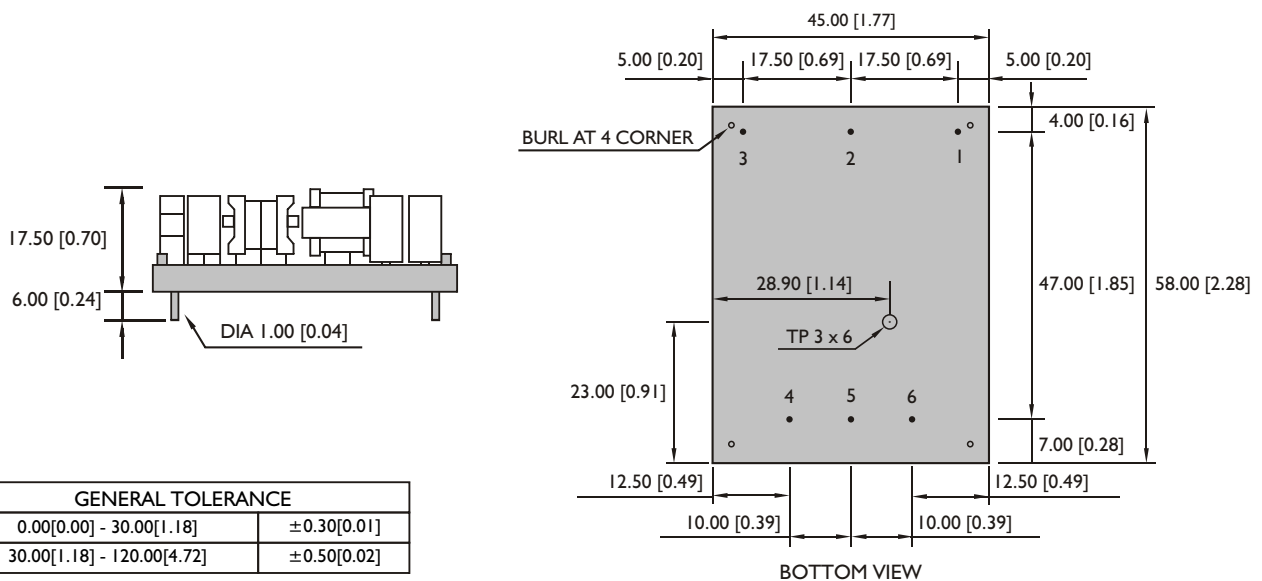
UL / cUL	UL 60950-1, Recognized
TUV	EN 60950-1, CB scheme
CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2, EN 61000-4-3 EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8 EN 61000-4-11, EN 61204-3
Vibration resistance	meet IEC 60068-2-6 (10-500 Hz, 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	58 x 45 x 17.5mm (2.28 x 1.77 x 0.70 inches)
Case material	Plastic
Weight	50g

MECHANISM & PIN CONFIGURATION

mm [inch]



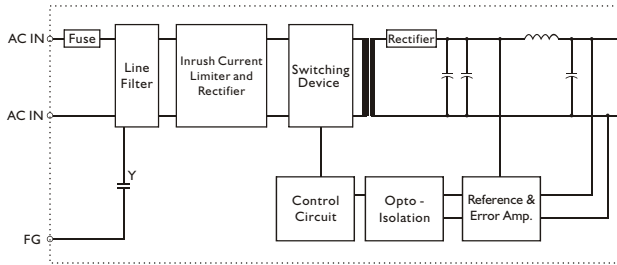
PIN ASSIGNMENT

GENERAL

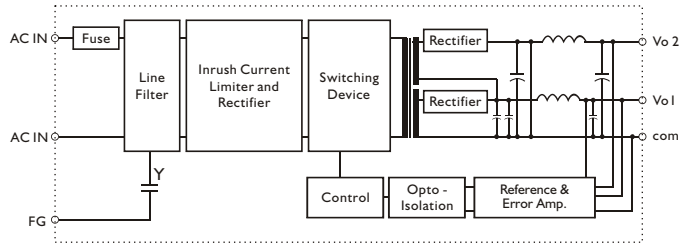
PIN NO.	1	2	3	4	5	6	
SINGLE	AC IN	AC IN	F. G.	Vo -	NO PIN	Vo +	
DUAL	12D, 15D	AC IN	AC IN	F. G.	Vo -	com	Vo +
	503D	AC IN	AC IN	F. G.	+ 5V	com	+3.3V
	512D	AC IN	AC IN	F. G.	+ 12V	com	+5V

CIRCUIT SCHEMATIC

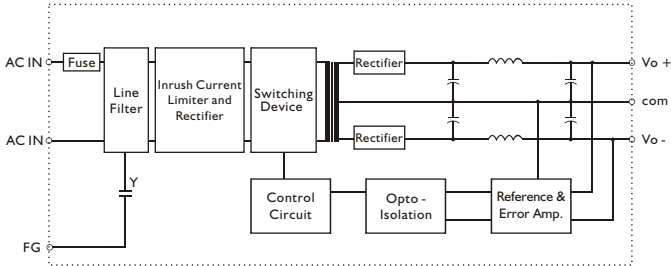
• Block diagram for KAD07 series with single output



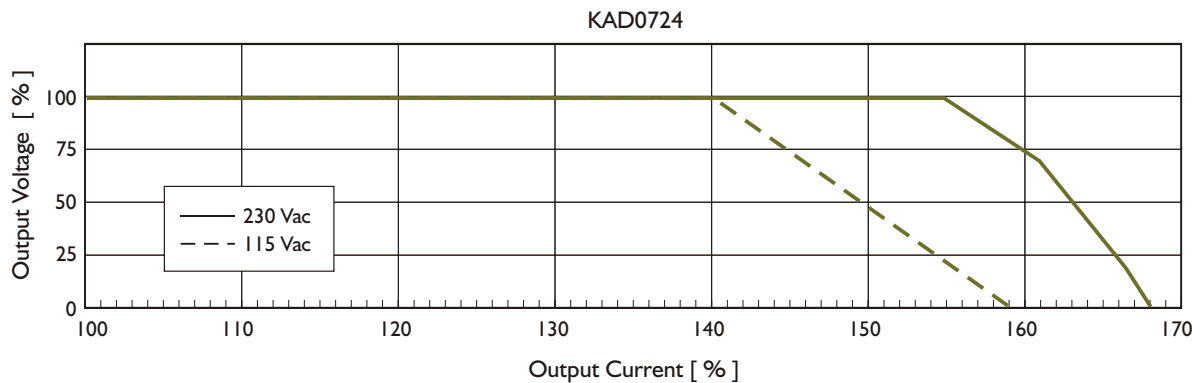
• Block diagram for KAD07503D & KAM07512D



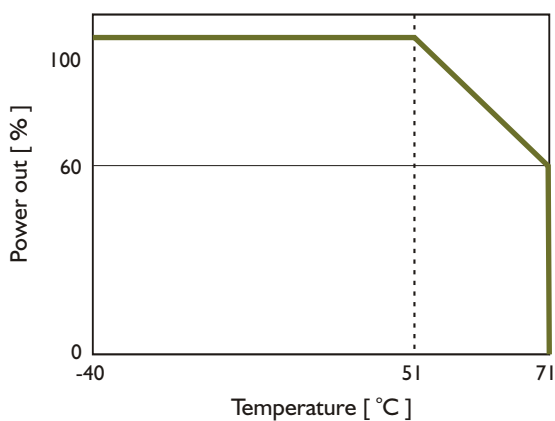
• Block diagram for KAD07 series with dual output



TYP. CURRENT LIMITED CURVE



DERATING CURVE



TYP. EFFICIENCY CURVE

