Features

- Wide input range 85-305VAC
- 5000m operating altitude
- OVCIII up to 2000m altitude
- 4kVAC isolation rated/60sec.
- EMC compliant without external components
- No load power consumption <200mW

The economy "KAD20ExxM-S" series of compact 20 Watt AC/DC modules，is designed to meet general purpose requirements for a wide variety of equipment for the IoT, ITE and industrial markets. These encapsulated power supplies feature 4kVac isolation and over voltage category OVCIII, as well as 100-277VAC nominal input voltages. At OVC II usage, the operating altitude is rated for up to 5000m. For EMC compatibility in floating output configurations, EN55032 limits for class "B" are met without any external components. The outputs are protected against over current and short circuits and input protection by internal fuse is provided. All these features make the product one of the easiest integrated modular power solutions for lowest total cost of ownership in the industry.

Selection Guide

Part Number	Input Voltage [VAC]	Output Voltage [VDC]	Output Current [mA]	Efficiency typ.(1)
KAD20E05M-S	85-305	5	4000	80%
KAD20E12M-S	85-305	12	1667	83%
KAD20E24M-S	85-305	24	833	84%

Note1: Efficiency is tested at nominal input and full load at +25°C ambient

Specifications

BASIC CHARACTERISTICS

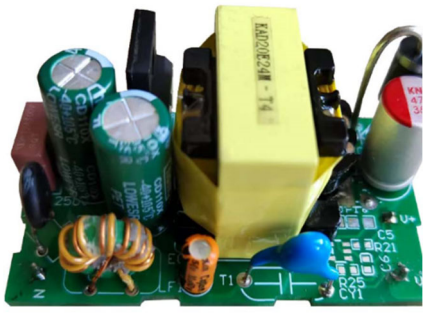
Item	Test Condition		Min.	Typ.	Max.
Internal Input Filter					CM Choke
Input Frequency	AC		47Hz		63Hz
Nominal Input Voltage	47-63Hz DC		85VAC 120VDC	230VAC	305VAC 430VDC
Input Current	115VAC 230VAC 265VAC				400mA 300mA 260mA
Inrush Current(2)	115VAC 265VAC				20A 40A
Power Consumption	No load				200mW
ErP Standby Mode Conformity (3)	Input Power=	0.5W 1.0W 2.0W			0.25W 0.60W 1.40W
Start-up Time					150ms
Rise Time					25ms
Hold-up Time	115VAC 230VAC 265VAC			10ms 40ms 56ms	

伟喀姆 WEIKAMU

AC/DC Converter

KAD20ExxM-S Series

20 Watt Single Output



EN55032:2015/A1:2020 Compliant

EN55035:2017/A11:2020 Compliant

IEC/EN6100-3-2:2019/A1:2021 Certified

IEC/EN6100-3-3:2013/A2:2021 Certified

IEC/EN62368-1:2014+A11:2017 Certified

Email:sales@jiahe-electronic.com
Website:www.jiahe-electronic.com

Output Ripple [4]	20MHz BW	5Vout others			150mVp-p 1% of Vout

Note2: Cold start at 25°C

Note3: Maximum output power available for stated maximum input power

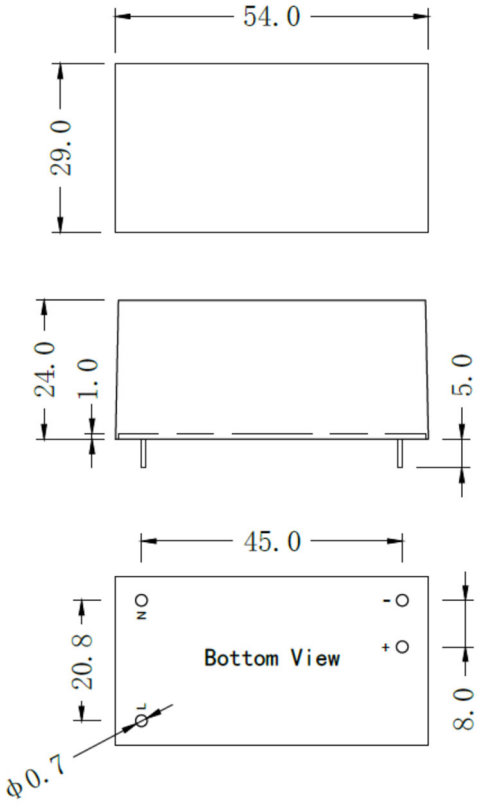
Note4: Measurements are made with a 0.1μF MLCC & 10μF E-cap in parallel across output. (low ESR)

Output Accuracy			±2%	
Line Regulation	100% Load		±0.5%	
Load Regulation	0%-100% Load		±1%	

PROTECTIONS

Input Fuse	internal	slow blow
Short Circuit Protection (SCP)		hiccup mode, automatic restart
Over Voltage Protection (OVP)		105% - 120%, clamping, automatic restart
Over Load Protection (OLP)		150% - 195%, hiccup mode
Over Voltage Category	according to 62368-1	OVCII(5000m) OVCIII(2000m)
Isolation Voltage	1 minute	4KVAC
Isolation Resistance		1GΩ
Leakage Current		0.25mA max.

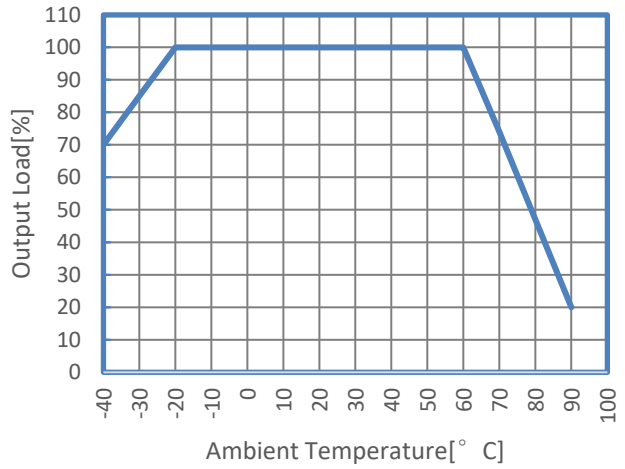
Dimensions



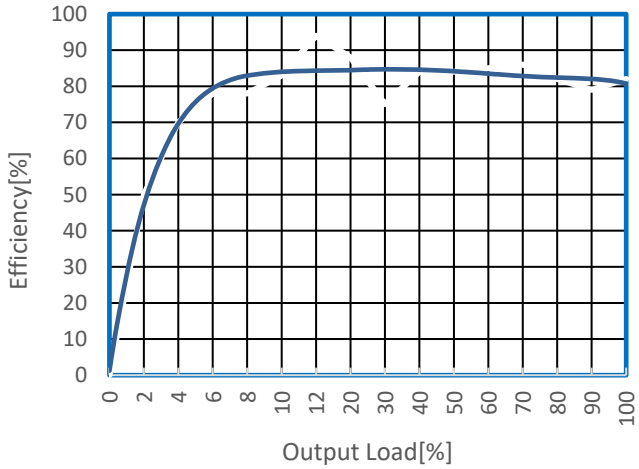
ENVIRONMENTAL

Operating Temperature Range			-20°C ～ +60°C	
Maximum Case Temperature			+90°C	
Operating Altitude			OVCII(5000m) OVCIII(2000m)	
Vibration	X,Y,Z axes		10-500Hz, 2G 10min./cycle,60min.	
MTBF	T=+25°C T=+40°C		700,000 hours 600,000 hours	
Design Lifetime	230VAC/50Hz 100% load	T=+25°C	$5V_{OUT}$	40,000 hours
			$12V_{OUT}$	50,000 hours
			$24V_{OUT}$	60,000 hours
		T=+40°C	$5V_{OUT}$	25,000 hours
			$12V_{OUT}$	30,000 hours
			$24V_{OUT}$	40,000 hours

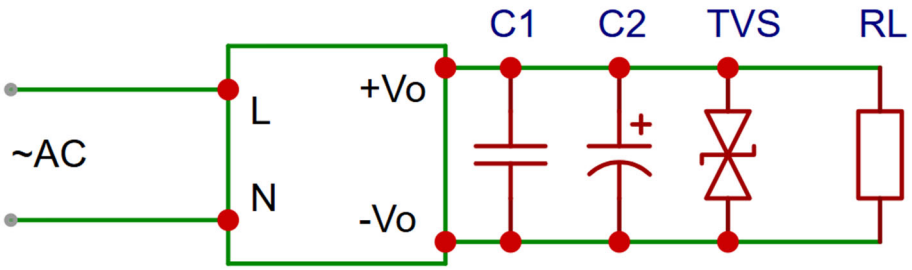
Derating Graph



Efficiency vs. Load



Recommend Circuit



C1	Selectable components; Determine whether to use based on the actual situation of the user's circuit	High frequency filter	0.1uF Ceramic capacitors, withstand voltage derating more than 75%
C2	Selectable components; Determine whether to use based on the actual situation of the user's circuit	Filtering to improve output voltage ripple	Aluminium electrolytic capacitance， withstand voltage derating more than 75%
TVS	Selectable components; Determine whether to use based on the actual situation of the user's circuit	TVS tube protects the secondary circuit	
Remark	The KAD20ExxM-S module has independently passed CE certification; C1, C2, TVS are determined by the user based on the actual circuit requirements; Suggest reserving installation space		