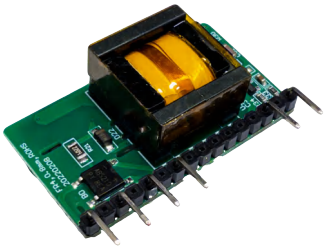
PAIRUI

AC-DC Converter
SIP -Package

SAB series 15Watt

FEATURES:

- ✓ Global voltage input (85-305Vac,50/60Hz)
- ✓ Dc input (100-430Vdc)
- ✓ Low ripple noise
- ✓ Standby power consumption ≤30mW
- ✓ Multiple protection
- ✓ 100% burn-in test
- ✓ 3 year warranty



Model	Input voltage (Vac)	Output voltage (Vdc)	Output current (A)	Efficiency Typ.
SAB15-S03	85-305Vac	3.3	3	79%
SAB15-S05	85-305Vac	5	2.8	79%
SAB15-S12	85-305Vac	12	1.25	86%
SAB15-S12V5	85-305Vac	12.5	1.2	86%
SAB15-S15	85-305Vac	15	1	86%
SAB15-S24	85-305Vac	24	0.625	85%

Adding "L" to the product suffix indicates horizontal packaging
Note: other input and output models may available on request;

ELECTRICAL

Input

Parameters	Test Conditions / Comment	Min.	Typ.	Max.	Units
Input voltage	---	85	--	305	Vac
		100	--	430	Vdc
Input frequency	---	47	--	63	Hz
Input current	Vin=115Vac	--	260	--	mA
	Vin=230Vac	--	120	--	mA
Inrush current	Cold start, Vin=230Vac	--	--	50	A
Leakage current	230Vac/50Hz	--	--	0.75	mA

Output

Parameters	Test Conditions / Comment	Min.	Typ.	Max.	Units
Output voltage accuracy	--	--	--	±2	%
Line regulation	--	--	±1.5	--	%
Load regulation	--	--	±1.0	--	%
Set-up rise time	Full load, Vin =230Vac	--	1000	--	ms
Hold-up time	Full load, Vin =230Vac	--	16	--	ms
Ripple	---	--	100	--	mV P-P

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ELECTRICAL

Protection

Parameters	Test Conditions / Comment					
Over current	≥ 110% load, can self recover after troubleshooting					
Over voltage	Output shutdown	3Vdc	5Vdc	12Vdc	15Vdc	24Vdc
		4-5Vdc	5.8-6.8Vdc	≤18Vdc	16-20Vdc	27-31Vdc
Short circuit	Hiccup mode, it will auto-recovery after fault condition is removed					

Environment

Parameters	Test Conditions / Comment	Min.	Typ.	Max.	Units
Storage	Humidity: 10% RH to 95% RH	-40	--	105	℃
Ambient operating temperature		-40	--	+85	℃
Operating relative humidity	Non condensing	--	--	85	%

Other

Parameters	Test Conditions / Comment
MTBF	165K hrs min. MIL-HDBK-217F(25℃)
Temperature coefficient	0.03%/ (0~ 50℃)
Vibration coefficient	10~500Hz, 2G10min./1cycle, 60min.each along X, Y, Z axes
Dimension(LxWxH)	41*23.5*15mm(L*W*H)

Safety

Parameters	Test Conditions / Comment
Safety standards	EN62368,IEC62368,UL62368
Isolation voltage	I/P-O/P:3000VAC/60S
Insulation Resistance	I/P-O/P>100M Ohms/500VDC 25℃ 70% RH
EMI / EMC	EN55011,EN55032(CISPR32)Class B (refer to below application circuit)
ESD	IEC/EN 61000-4-2 level 4 Contact ±8kV/Air ±15kV(refer to below application circuit)
RF Immunity	IEC/EN 61000-4-3 level 4 (refer to below application circuit)
Electrical Fast Transient	IEC/EN 61000-4-4 level 4 (refer to below application circuit)
Surge	IEC/EN 61000-4-5 level 4 (refer to below application circuit)

1. Unless otherwise specified, the above data were measured at TA=25oC, humidity<75%, input nominal voltage 230VAC, and output rated load.
2. Ripple and noise measurement method: parallel line testing method is used, and a 0.1uF high-frequency ceramic capacitor and a 47uF electrolytic capacitor are connected in parallel at the terminal in the 20MHz band Measure under the width and connect according to the "typical application diagram", and measure under the same component parameters as in the table.
3. The power supply is considered a component within the system and needs to be confirmed for electromagnetic compatibility in conjunction with the terminal equipment.
4. This series of overvoltage protection uses TVS tubes added to the periphery to protect the downstream circuit in case of module abnormalities.
5. This model is a bare board type, and in order to meet safety requirements, a safety distance of at least 6.4mm needs to be maintained between the primary and secondary peripheral components of the module

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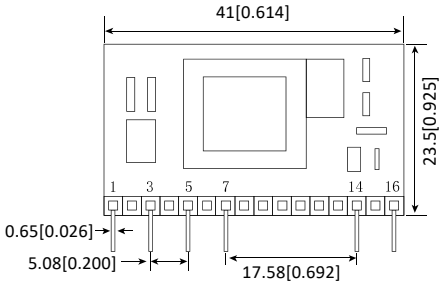
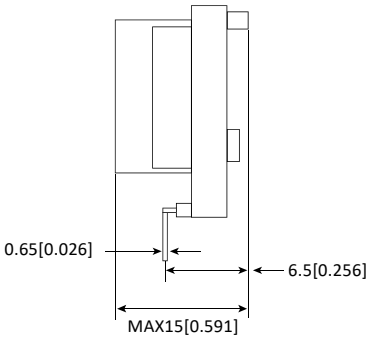
6.In order to improve the conversion efficiency of light loads, when the module load is less than 30% of the rated load, there may be slight audio noise in the module, but it does not affect the performance and usability of the product Relying on sex.

7.After module assembly, it needs to be fixed with glue.

DIMENSION

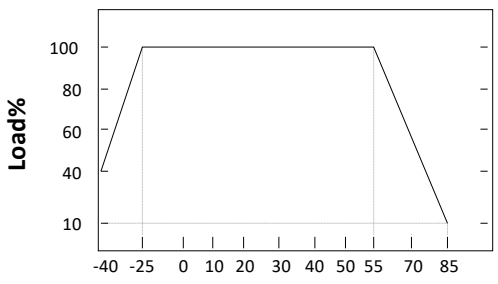




PIN #	define
1	AC(N)
3	AC(L)
5	+V(Cap)
7	-V(Cap)
14	-Vo
16	+Vo

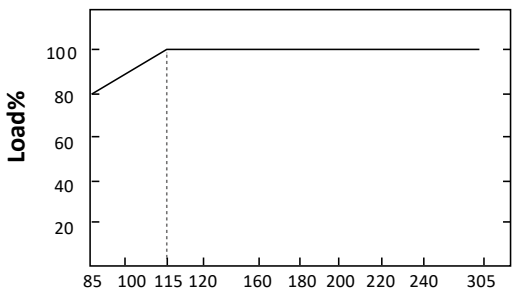
DERATING CURVE CHART

Temperature Derating Curve



Environmental temperature (℃)

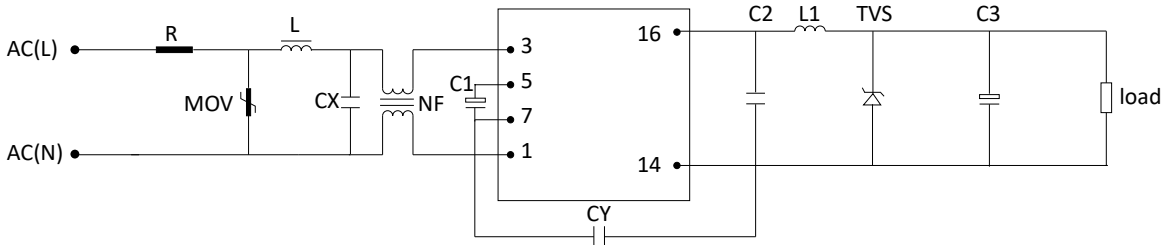
Input voltage derating curve



Input voltage (Vac)

NOTE

RECOMMENDED TEST AND APPLICATION CIRCUIT



1. C2 is a ceramic capacitor, used for filtering high frequency noise. C3 is the high frequency and low ESR electrolytic capacitor. A suppressor diode (TVS) is recommended to protect the application in case of the converter failure.
2. In general applications, the common mode choke NF in the dotted lines box do not have to be used,the common mode choke L=30mH, this inductance needs to be added when higher EMC requirements need to be met.
3. If you need any technical support, please contact us.

EMC RECOMMENDED APPLICATION CIRCUIT

	3VDC	5VDC	12VDC	15VDC	24VDC
R			3.3Ω/1W		
MOV			10D561K		
L			1mH		
C1			22uF/450V		
NF			10-30mH		
CX			104K/275Vac		
CY			2.2nF/400Vac		
L1			2.2uH/3A		
C2/C3	680uF/16V	680uF/16V	470uF/16V	470uF/25V	220uF/35V
TVS	P6KE7.5A	P6KE7.5A	P6KE20A	P6KE20A	P6KE30A