



Description: **10W 3KVAC Isolation Wide Input AC/DC Converters**

S10ACS is 10W with wide input voltage range, for both AC input and DC input application, come with low no-load consumption <0.1W, it is widely used in industries such as smart home, healthcare, industrial control, and industry. When applied in harsh electromagnetic compatibility environments, reference must be made to the application circuit.

FEATURE

Universal input voltage range	Both for AC and DC input voltage	Wide input range 4:1
low no-load consumption, low power consumption	Low Ripple & noise	Output short circuit protection
High efficiency and high power density	RoHS compliant	Operating temperature: -40°C to 70°C

SELECTION GUIDE

Part Number	Input		output		Ripple & noise (mV)	Efficiency (%)
	Voltage		Voltage (VDC)	current (A)		
	VAC	VDC				
S10ACS220S05W	85-264	100-370	5	2.0	100	76
S10ACS220S09W	85-264	100-370	9	1.05	100	80
S10ACS220S12W	85-264	100-370	12	0.83	100	81
S10ACS220S15W	85-264	100-370	15	0.66	100	83
S10ACS220S24W	85-264	100-370	24	0.42	100	84

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

INPUT CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
Input voltage	VDC	100	220	370	VDC
Input voltage	VAC(<120VAC,@0.1W/VAC derating)	85	220	264	VAC
Input Current (Typ.)	115VAC		200		mA
Input Current (Typ.)	230VAC		100		mA
Input Frequency		47		440	Hz
Inrush Current (Typ.)	115VAC		18		A
Inrush Current (Typ.)	230VAC		38		A
External Fuse Recommended VALUE		T1A / 250V			
Leakage Current (Typ.)		<0.1mA at 265VAC/50Hz			

OUTPUT CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
Voltage accuracy	±5.0%max			±3.0	%
Line regulation				±1	%
Load regulation				±1	%
Short circuit protection	Over-voltage, over-current, short circuit protection : Hiccup, continuous, self-recovery				
Temperature coefficient	0~50°C		±0.03		%/°C
Start rising time (100% load)	115VAC input		200		ms
Start rising time	230VAC input		100		ms
Output hold time (100% load)	115VAC input		15		ms
Output hold time	230VAC input		40		ms

TEMPERATURE CHARACTERISTICS

Parameter	conditions	Min.	Typ.	Max.	units
Operating temperature	See Derating curve	-40		+70	°C
Operating humidity				+85	% .RH max
Storage temperature		-40		+85	°C
Storage humidity		10		95	% .RH max
Vibration coefficient		10~500Hz,2G10min./1cycle,60min.each along X,Y,Z axes			

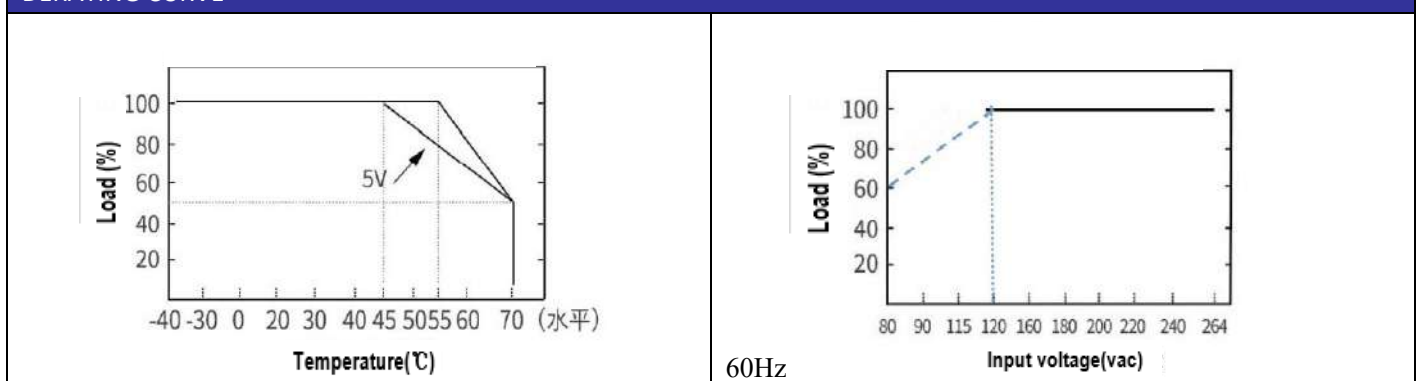
SAFETY & ELECTROMAGNETIC COMPATIBILITY

Safety standard	UL62368,EN62368, IEC62368
Isolated voltage	I/P-O/P:3000VAC
Isolation resistance	I/P-O/P>100M Ohms/500VDC 25°C 70% RH
Conduction and radiation	EN55011, EN55022 (CISPR22) CLASS B (refer to APPLICATION CIRCUIT)
Electrostatic discharge(ESD)	IEC/EN 61000-4-2 level 4 8kV/15kV (refer to APPLICATION CIRCUIT)
Rf radiation immunity (RF)	IEC/EN 61000-4-3 (refer to APPLICATION CIRCUIT)
EFT	IEC/EN 61000-4-4 level 4 4kV (refer to APPLICATION CIRCUIT)
Surge	IEC/EN 61000-4-5 level 4 2kV
MTBF	200K hrs min. MIL-HDBK-217F(25)

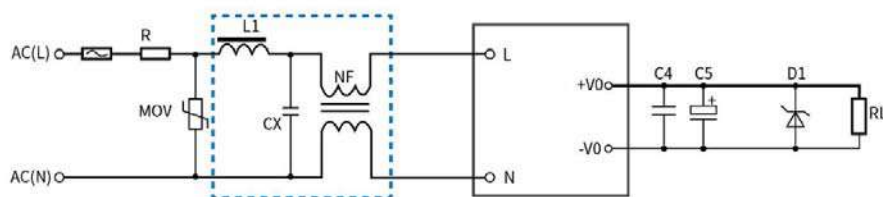
NOTES

- The data in this manual are measured at TA = 25 ° C, humidity <75%, input nominal voltage (230Vac) and output rated load,except for special instructions.
- Ripples and noise were measured using the parallel line testing method using circuit connections according to this manual, with a bandwidth of 20MHz.
- The parts in the system is considered as a component, need to combine the terminal equipment for electromagnetic compatibility related confirmation.

DERATING CURVE



TYPICAL APPLICATION CIRCUIT



Notes :

1. Output filtering capacitor C5 is a electrolytic capacitor, it is recommended to use high frequency and low impedance electrolytic capacitor. For capacitance and current of capacitor please refer to manufacture's datasheet. C4 is used to filter high-frequency noise
2. The dashed box contains EMC filters connected to meet higher EMC requirements, which can be omitted for general applications.

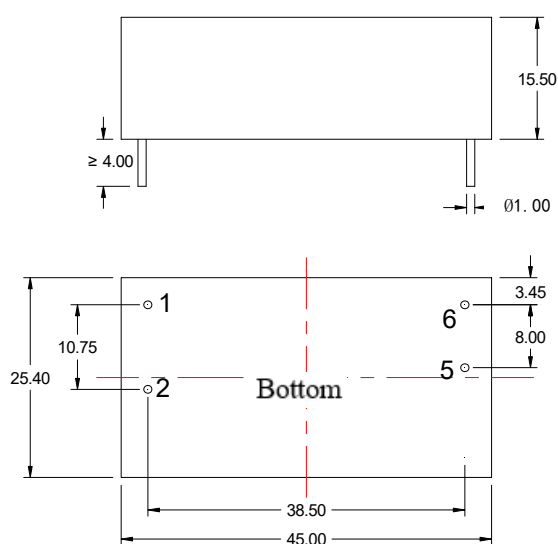
TYPICAL APPLICATION CIRCUIT

component	FUSE	R	NF	MOV	CX	L1	C5	C4	D1
PN									
S10ACS220S05W	T1A/250V	external thermistor, PN : 10D-9	NF is Common mode inductanc e, inducta nce value 30mH, current 0.5 A.	MOV is piezoresist ance , Reco mmend value 14D471K	CX is safe X capacitor , 104K/275V	1mH/0.5A	680µF/16V	104K/50V (ceramic capacitor)	P6KE6.8A
S10ACS220S09W							680µF/16V		P6KE16A
S10ACS220S12W							470µF/16V		P6KE16A
S10ACS220S15W							330µF/25V		P6KE20A
S10ACS220S24W							120µF/35V		P6KE33A

MECHANICAL DIMENSIONS

PIN DESIGN

DIP

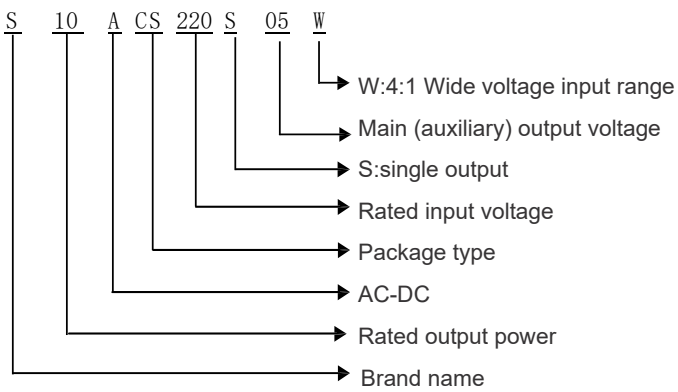


UNITS : mm

Tolerance: ±0.5mm

PIN	SINGLE
1	AC
2	AC
5	+V0
6	-V0

SELECTION GUIDE



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