

Features

- Wide input 85-305VAC/120-430VDC
- DIP Package
- Working Temperature: -40°C~+85°C
- Isolation 3000/4000VAC 5mA 1Minute
- Internal SMD design
- Highly flame-retardant plastic shell packaging
- Cooling nature
- Good shielding and anti-interference performance, electromagnetic compatibility, lightning protection, output over current, short circuit protection, overheating protection, self recovery and other functions

Product Picture



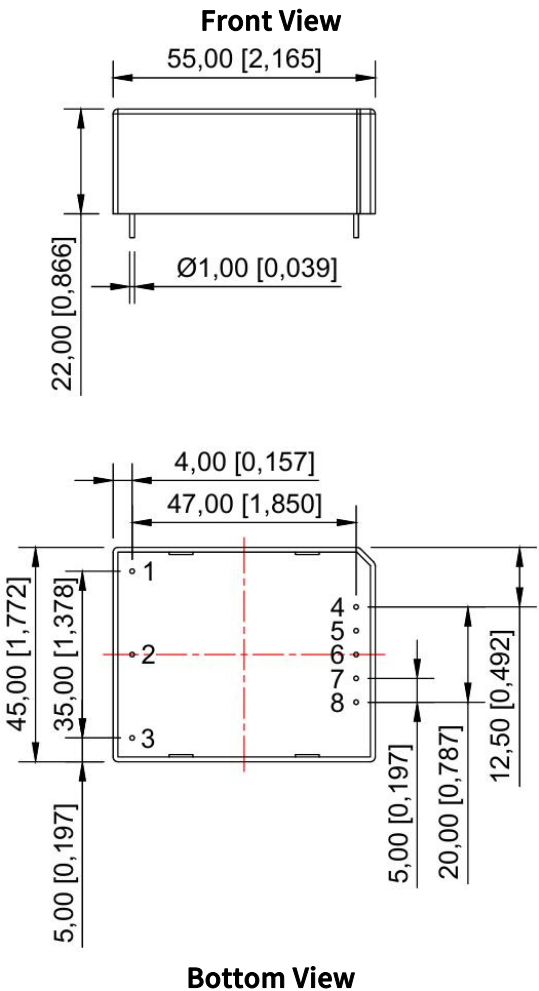
Patent Protection



EMC-EN55032
EN55035
LVD-EN62368

Dimensions

AC220S(D)(TD)___E2-20 Series Dimension



Pin	Single(S)	Dual (D)	Dual non-shared ground (TD)
1	AC(L)	AC(L)	AC(L)
2	AC(N)	AC(N)	AC(N)
3	FG	FG	FG
4	+XXVDC	+XXVDC	+XXVDC
5	No Pin	No Pin	0V2
6	No Pin	COM	No Pin
7	No Pin	No Pin	+XXVDC
8	0V	-XXVDC	0V1

Note:

Unit: mm[inch] Pin section Tolerance: $\pm 0.1[\pm 0.004]$ General Tolerance: $\pm 0.25[\pm 0.01]$
The device layout is for reference only

Application

Industrial control and long-distance DC power supply systems, switching systems, AC/DC (5V products), railway communication, communication interface converters, cellular phones, semiconductor lasers, display screens, monitoring equipment, petrochemicals, portable instruments, medical instruments, self-control devices, anti-theft alarms, handheld instruments, digital circuits, IC card electricity meters, air conditioning computer controllers, LED products, digital products, power adapters, etc.

Selection Guide

Model	Vin (V)	Vout (V±2%)		Full Load Output Current (mA)	Efficiency (%)	Isolation (VAC)	Weight (g±0.5)	Certification
AC220S05E2-20	85-305VAC (120-430VDC)	5		4000	≥85	3000/4000		
AC220S09E2-20		9		2222	≥85	3000/4000		
AC220S12E2-20		12		1666	≥86	3000/4000		
AC220S15E2-20		15		1333	≥87	3000/4000		
AC220S24E2-20		24		833	≥87	3000/4000		
AC220D05E2-20		±5		±2000	≥85	3000/4000		
AC220D09E2-20		±9		±1111	≥85	3000/4000		
AC220D12E2-20		±12		±833	≥86	3000/4000		
AC220D15E2-20		±15		±667	≥87	3000/4000		
AC220D24E2-20		±24		±417	≥87	3000/4000		
AC220TD0505E2-20		5	5	Customize	≥85	3000/4000		
AC220TD0512E2-20		5	12	Customize	≥86	3000/4000		
AC220TD0524E2-20		5	24	Customize	≥87	3000/4000		

Note: Our company customizes any input/output module power supply for customers. If you have special requirements, please call our company. Unless otherwise specified, the input=Vi, and the characteristics of the module power supply should comply with the provisions of Table 1 and be applicable to the full temperature range (-40℃ ≤ Tc ≤ 85℃)

Electrical Characteristics

Characteristics	Symbol	Condition Vi, -40℃≤Tc≤85 (Unless otherwise specified)	Min	Max	Unit
Output Voltage	Vo	Full Load	Vo-2%	Vo+2%	V
Output current	Iomax	—	—	P(Power)/U(Output Voltage)	A
Output Ripple Voltage	Vp-p	Full Load, Vi, BW=20MHz, Normal Temperature	100	250	mV
Output Noise Voltage	Vp-p	Full Load, Vi, BW=20MHz, Normal Temperature	120	300	mV
Voltage Regulation	Sv	Vimin、Vi、Vimax, Full Load	—	<0.5%	%
Load Regulation	Si	Vi, Io=(10%~100%)Iomax	—	<0.5%	%
Efficiency	η	Vi, Full Load, Normal Temperature	85	—	%
Insulation Resistance	RI	Vin Vout, Test voltage: 500VDC	100	—	MΩ

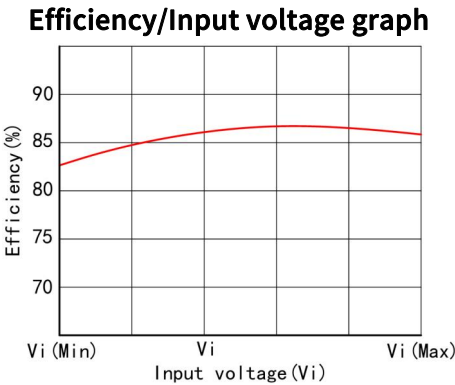
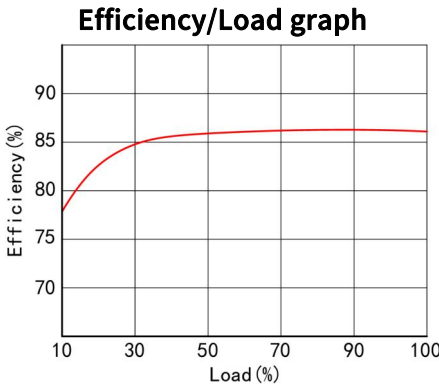
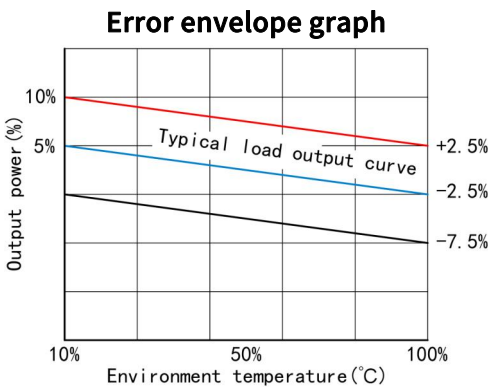
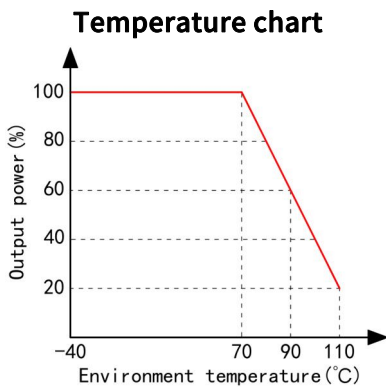
Mechanical Specifications

Size	55.00 x 45.00 x 22.00 mm
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General Characteristics

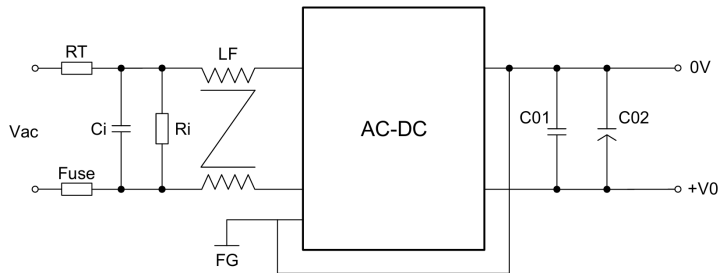
EMC Specifications	Magnetic Field Sensitivity Test	GB6833.2-87
	Electrostatic Discharge Sensitivity Test	GB6833.3-87
	Radiation Sensitivity Test	GB6833.5-87
	Conductivity Sensitivity Test	GB6833.6-87
Temperature Excursion	<0.03%/°C	
Storage Temperature	-40°C~125°C	
Input Grid Frequency	47Hz~63Hz	
Humidity	20%~95%RH	
Leakage Current	5mA(max)	
MTBF	>500000H	

Product Characteristic Curve



Application

Design Reference



Recommendation Test

Filtering: In some circuits sensitive to noise and ripple, filtering capacitors can be externally connected to the input and output terminals of the AC/DC converter to reduce the impact of ripple on the system. However, the value of the filtering capacitor should be appropriate. If the capacitor is too large, it may cause startup problems. For each output, under the condition of ensuring safe and reliable operation, the maximum capacitance value of the filtering capacitor can refer to the external capacitance table. In order to obtain very low ripple, an "LC" filtering network can be connected to the input and output terminals of the AC/DC converter, so that the filtering effect will be better. At the same time, attention should be paid to the size of the inductance value and the frequency of the "LC" filtering network itself, which should be staggered with the frequency of the AC/DC module power supply to avoid mutual interference. For each output, under safe and reliable working conditions, it is recommended that its capacitive load value be detailed in Table 1.

Input voltage (Vin+)	C01	C02	RT	Ci(UF)	Ri(KR)	LF(mH)
85-305V	104M/50V	1000uF/16V	8D-7	0.1/275V	560	8-10

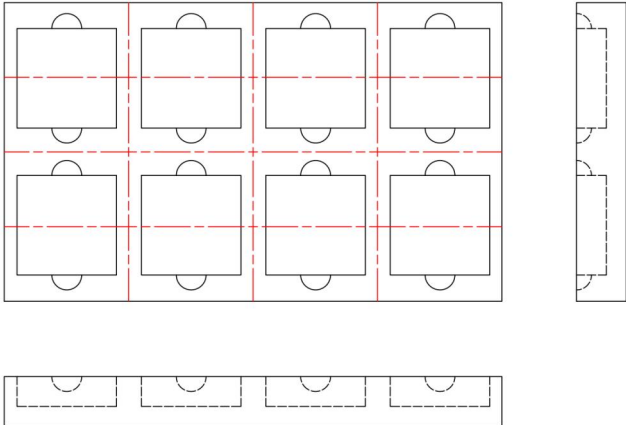
Table of recommended capacitive load values (Table 1))

Note: Please note that the grounding of the main output circuit and the grounding of the load carried should be connected to the ground, so that even if there is a problem with the product, it will not cause harm to personnel. The grounding requirement for auxiliary roads is that they are isolated and do not need to be grounded.

Notice

Package

This series of modules are packed with shockproof electrostatic foam



Transport

The packaging containing modules allows for transportation by any means of transport, and direct rain, snow, and mechanical damage should be avoided during transportation.

Storage

The module should be stored in a warehouse with an ambient temperature of -40 °C to 125°C, a relative humidity of 20% to 95%, and no acidic, alkaline, or other harmful gases in the surrounding environment.

Note: The above are the performance indicators of the product series listed in this manual. Some indicators of non-standard models may exceed the above requirements. If there is any inconsistency between the manual and the product specification document, please refer to the specification document. If you have special requirements, please contact our company directly.