CFAE2OR4 Series

AC/DC CONVERTER



FEATURES

- Universal input voltage range: 90~264Vac/130~370Vbc
- I/O Isolation 4000VAC
- High efficiency, high power density
- Operating Temp:-40°C to +70°C
- Over load, Over Voltage, Short Circuit Protection
- Meets UL60950, EN60950 standards

* CHENNS CRA X.

20W,AC/DC CONVERTER

RoHS

Selection Guide					
Part No.	Input Voltage (VAC/Hz)	Output Power	Nominal Output Voltage and Current(Vo/Io)	Efficiency (230VAc, %/Typ.)	Max. Capacitive Load (µF)
CFAE13S03R4	90-264/47-440	13.2W	3.3V/4000mA	71	5600
CFAE20S05R4	90-264/47-440	20W	5V/4000mA	77	4700
CFAE20S12R4	90-264/47-440		12V/1660mA	79	3300
CFAE20S15R4	90-264/47-440		15V/1330mA	81	2200
CFAE20S24R4	90-264/47-440		24V/840mA	79	1000

Input Specifications						
Item	Operating Conditions	Min.	Тур.	Max.	Unit.	
Innut Veltage Denge	AC input	90		264	VAC	
input voltage Range	DC input	130		370	VDC	
Input Frequency		47		440	Hz	
	115Vac			500	m (
Input Current(Full Load)	230Vac			350	ША	
	115VAC			30	Α	
Inrush Current(<2ms(cold start))	230VAC			50		
Recommended External Input Fuse(Special package series include fuse)		1.5A/250V, slow fusing, necessary				
Hot Plug		Unavailable				

Environment Approval				
Test	Parameters	Conditions		
	Wave form	Half sine wave		
	Acceleration amplitude	5gn		
Shock	Bump duration	30 ms		
	Converter operation	before and after test, body mounted (on chassis)		
	Number of bumps	18 (3 in each direction for every axis)		
	Test mode	Sweep sine		
Vibration	Displacement	1mm		
VIDIATION	Acceleration	3g		
	Converter operation	10 - 100Hz, speed 0.05Hz/s		

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Output Specifications						
Item	Operating Conditions		Min.	Тур.	Max.	Unit
Output Voltage Accuracy				±2		0/
Line Regulation	Full load	Full load		±1		%
Load Regulation	10%-100% load			±2		
	20MH bandwidth	3.3V/5V output		100	150	m)/
Ripple / Noise*	(peak-peak value)	Other output		150	200	mV
Temperature Coefficient				±0.02		%/°C
Stand-by Power Consumption					0.3	W
Short Circuit Protection			Hicc	up, continuou	is, self-recove	ery
Over-current Protection				≥ 110%lo s	elf-recovery	
Over-voltage Protection			Over-voltage shut down			
	110VAc input			10		ms
Hold-up Time	230Vac input			25		
Note: * Ripple and noise are measured by "	parallel cable" method, please se	ee AC-DC Converter Applicat	ion Notes for specif	c operation.	*	

General Specifications Item Unit **Operating Conditions** Min. Тур. Max. Test time:1min 4000 VAC Isolation Voltage Input-output -------40 +70 **Operating Temperature** ---°C Storage Temperature -45 +95 ---Storage Humidity ---95 %RH ---Switching Frequency 47 440 KHz ---**+40**°C ~**+70**°C 2.0 ------Power Derating **%/℃** 0°C~-25°C 2.0 -----IEC60950/EN60950/UL60950 Safety Standard EN60950/UL60950 (Pending) Safety Certification Safety Class CLASS I I MIL-HDBK-217F@25°C> 300,000 h MTBF

Physical Specifications				
Casing Material	Plastic (flammability to UL94V-0)			
Dimension	56.48*30.86*25.10mm 2.22*1.21*0.99 inches			
Weight	70g (Тур.)			
Cooling Method	Free convection			

Referenced standards				
	Medical Electrical Equipment	IEC \EN \UL 60601-1, 2xMOOP,CSA-C22.2 No.601.1-M90		
	Information technology Equipment	EN 60950-1:2006+A11:2009		
	EMI - Conducted and radiated emission	EN550 22, class B		
	Harmonic Current Emissions	IEC/EN 61000 -3-2, Class A		
	Voltage fluctuations and flicker	IEC/EN 61000 -3-3, (EN60555-3)		
	Electrostatic Discharge Immunity	IEC 61000 -4-2, Contact ± 4KV/Air ±8KV, Criteria A		
Standards	RF, Electromagnetic Field Immunity	IEC 61000 -4-3, 3 V/m , Criteria A		
	Electrical Fast Transient/Burst Immunity	IEC 61000 -4-4, ±1KV, Criteria A		
	Surge Immunity	IEC 61000 -4-5, ±2KV, Criteria A		
	RF, Conducted Disturbance Immunity	IEC 61000 -4-6, 3Vrms, Criteria A		
	Voltage dips, Short Interruptions Immunity	IEC 61000 -4-11		
	Information Technology Equipment	UL 60950 -1:2007		
	Information Technology Equipment	CAN/CSA -C22.2 No.60950-1-07		



Additional Surge Protective Circuitry

The CFAE20R4 series design level surge protection is certified to IEC 61000-4-5 surge Line to Line of 1KV. However greater protection can be enhanced by adding protective devices to ingress circuitry. For example, by adding an MOV (MetalOxide Varistor) device example TVR10471K SY to the N / L input lines 2KV surge protection or greater, can be achieved.



	Vrms	Vdc	Wmax (2ms)	Pmax
MOV PN	V	V	J	W
TVR10471KSY	300	385	70	0.4



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Dimensions and Recommended Layout



Pin Diameter $1.0 \pm 0.05 (0.04 \pm 0.002)$

Pin Pitch Tolerance ±0.35 (±0.014)

Note:

- 1. If the product operates below the minimum required load, it cannot be guaranteed that the product performance meets all performance indicators in this manual;
- 2. The maximum capacitive load is within the input voltage range and tested under full load conditions;
- 3. Unless otherwise specified, all indicators in this manual are measured at Ta=25°C, humidity<75% RH, nominal input voltage, and output rated load;
- 4. All indicator testing methods in this manual are based on the company's corporate standards;
- 5. Our company can provide product customization, and you can directly contact our technical personnel for specific situations;
- 6. The product involves laws and regulations: see "Product Features" and "EMC Characteristics";
- 7. After our company's products are scrapped, they need to be classified and stored according to ISO14001 and relevant environmental laws and regulations, and handed over to qualified units for processing



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5