



- **4:1 input voltage range**
- **Approved to EN60950, UL1950, CSA C22.2 No. 950**
- **Operating ambient temperature of -40°C to +70°C in still air**
- **High demonstrated reliability with conservative component deratings**
- **Complies with ETS 300 019-1-3/2-3**
- **Complies with ETS 300 132-2 input voltage and current requirements**
- **Fully compliant with ETS 300 386-1**
- **Pin compatible with NFC10 and BXA10 series**
- **Basic insulation system (input to output)**

The CXA10 series comprising of five different models delivers single and dual output voltages covering 3.3V, 5V, 12V, $\pm 5V$ and $\pm 12V$. The series has a wide 4:1 input voltage range of 18 to 75VDC. The CXA10 has been designed as a competitive open-frame alternative for the communications market. The product is supplied in the industry standard footprint of 2.0 x 1.0 x 0.394 inches. Other product features include overvoltage protection, short circuit protection and remote on/off. All components are placed in a fully automated environment. Planar magnetics are used in the design to improve the reliability and reduce the profile of the DC/DC converter. The series has full international safety approval to EN60950 and UL1950 reducing system compliance costs, and it has a basic insulation system from input to output making it suitable for a wide variety of applications.

[2 YEAR WARRANTY]



SPECIFICATION All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage accuracy		$\pm 1.0\%$
Line regulation (LL to HL)	Singles/dual positives Dual negatives	$\pm 0.1\%$ $\pm 0.2\%$
Load regulation (not incl. cross reg.)	Full load to minimum load	$\pm 0.15\%$
Min. load	All outputs	10%%
Ripple and noise 20MHz bandwidth	3.3V and 5.0V All others All models	30mV pk-pk 60mV pk-pk 12mV rms
Temperature coefficient		$\pm 0.01\%/^{\circ}\text{C}$
Overvoltage protection	Clamp type (See table and Notes 3,4)	
Short circuit protection	Hiccup	Continuous auto. recovery
Short <20mΩ		
Transient response	Min. load to FL	$\pm 1.0\%$
Load cross regulation	Min. load to FL (See Note 1)	$\pm 5.0\%$
INPUT SPECIFICATIONS		
Input voltage range	48Vin nominal	18 to 75VDC
Input fuse	(See Note 10)	1.5A HRC
Max. input rise and fall time	48V ETS300 132-2	5V/ms
UVLO turn ON voltage	(See Note 5)	94%
UVLO turn OFF voltage	(See Note 5)	86%
Remote ON/OFF Logic compatibility	(See Note 7) CMOS/TTL/Open Collector Open circuit	<1VDC

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS		
ETS 300 386-1 table 5		
Conducted emissions	EN55022 (See Note 6) EN55022, external filter, VDE0878, 48V models	Level A Level B
Radiated emissions	See Application Note 100	
ESD air	EN61000-4-2, level 3	
ESD contact	EN61000-4-2, level 4	
Surge (500V)	EN61000-4-5, level 3,4	
Fast transients	EN61000-4-4, level 3,4	
Radiated immunity	EN61000-4-3, level 3	
Conducted immunity	EN61000-4-6, level 3	
GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input/output test voltage	1500VDC
Switching frequency	Fixed	400kHz
Approvals and standards (See Notes 7,8,9,10,11)		EN60950, UL1950 CSA C22.2 No. 950
Material flammability		UL94V-0
Weight		12g (0.42 oz)
MTBF (Representative model 48S05 @ 48Vin)	MIL-HDBK-217F Parts stress method Ground Benign @ 25°C	456,621 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating ambient temperature Non-operating	-40°C to +70°C, See curves -55°C to +105°C
ETS 300 019-2-3		Classes T3.1 to T3.5
Air temperature	Low: IEC 68-2-1 High: IEC 68-2-2 Change: IEC 68-2-14	-40°C +70°C -40°C to +70°C
Relative humidity	IEC 68-2-56 IEC 68-2-30	10% to 100% RH Condensation
Vibration, Class 3M5 9 to 200Hz 1g	IEC68-2-6 MIL-STD-202F	2 to 9 Hz, 3mm disp. Method 204 cond. A
Shock, Class 3M5	IEC-68-2-29 MIL-STD-202F	Method 213B cond. A

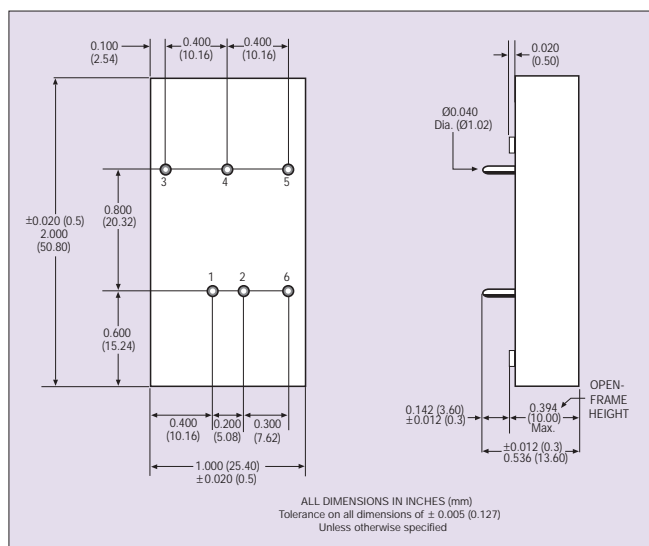
10 Watt DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OVERVOLTAGE PROTECTION (3,4)	OUTPUT CURRENT (MAX.) (9)	TYPICAL EFFICIENCY	MODEL NUMBER (7)
18-75VDC	3.3V	3.9V	2.0A	78%	CXA10-48S3V3
18-75VDC	5.0V	6.8V	2.0A	81%	CXA10-48S05
18-75VDC	12V	16V	0.83A	83%	CXA10-48S12
18-75VDC	±5V	±6.8V	1.0A	81%	CXA10-48D05
18-75VDC	±12V	±16V	0.41A	83%	CXA10-48D12

Notes

- Negative output voltage deviation when positive load is changed.
- Guaranteed minimum output voltage range.
- TVS spec : See Application Note 100 on our website.
- On dual output models, OVP protection is on negative outputs only.
- With respect to minimum input voltage.
- With one external ITW Paktron 4.7µF film capacitor across the input.
- For units with optional remote ON/OFF, please add the suffix '-S' to the model number, e.g. CXA10-48S05-S. Additional alphanumeric suffixes may be added to indicate minor modifications not affecting the safety approvals.
- Unit provides basic insulation up to the 75VDC maximum input voltage.
- Maximum continuous output power not to exceed 10 Watts. 6.6 Watts for the 3V3 model.
- User must provide 1.5A in line fuse in order to comply with safety approvals.
- Maximum temperature on components Q100, CR101, CR102 not to exceed 120°C. See Application Note 100 for details.

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.



PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Input	+ Input
2	- Input	- Input
6 *	Remote ON/OFF	Remote ON/OFF
3	+ Output	+ Output
4	No Pin	Common
5	- Output	- Output

* Optional remote ON/OFF pin. Please add the suffix '-S' to the model number, e.g. CXA10-48S05-S (See Note 7).

