

ADC100S Series

100 Amp PSA Satellite DC/DC Converter

Preliminary Data Sheet

Total Power: 100 W, 180 W
 (1.0 V @ 100 A)
 (1.8 V @ 100 A)
Input Voltage: 40 - 60 Vdc
Single Output Versions:
 0.6 - 1.2 V
 1.6 - 2.0 V



SPECIAL FEATURES

- 100A TDC current
- PSA compliant
- Up to 93% efficient
- Low ripple and noise
- Data center 48 Vdc input range
- Open frame optimized for air cooling
- Surface mount termination
- Fixed switching frequency
- High capacitive load capability
- Pre-bias startup capability
- High reliability
- RoHS 6 compliant
- UL94 V-0 materials
- Two year warranty (consult factory for extended terms)

SAFETY

- EN60950
- UL/CSA60950
- CE



Electrical Specifications

Input	
Input voltage	40 to 60 Vdc
Input surge	80 V for 10 mSec
Input undervoltage shutdown/startup	39 Vdc startup 37 Vdc shutdown
Efficiency	93% (target for -04Y variant)
I/O insulation	Operational insulation
I/O isolation	500 Vdc
Output	
Output voltage	1.0 V nominal (-04X variant) 1.8 V nominal (-04Y variant)
Output voltage adjustment	0.6 V to 1.2 V (-04X variant) 1.6 V to 2.0 V (-04Y variant)
Output current maximum	1.0 V at 100 Amps (-04X variant) 1.8 V at 100 Amps (-04Y variant)
Noise and ripple	1% Vout
Overtemperature protection (Open frame)	120 °C hot spot Non-latching protection
Overvoltage protection method/OVP operation	120% of nominal Vout Latching protection
Overcurrent protection method/OCP operation	115% of max lout Non-latching protection
Control	
Enable	Negative enable
Columbus™ communication	All control functions supported from Main-Stamp control
Switching frequency	TBD

Ordering Information

Model Number	Input Voltage	Output Voltage	Output Current	Structure
ADC100S-04X	40 - 60 Vdc	1.0 Vdc	100 A	Open frame, surface mount
ADC100S-04Y	40 - 60 Vdc	1.8 Vdc	100 A	Open frame, surface mount

ADC = Artesyn Direct Conversion

100 = 100 A rated

04 = 40-60 Vin

X = 1.0 V output version

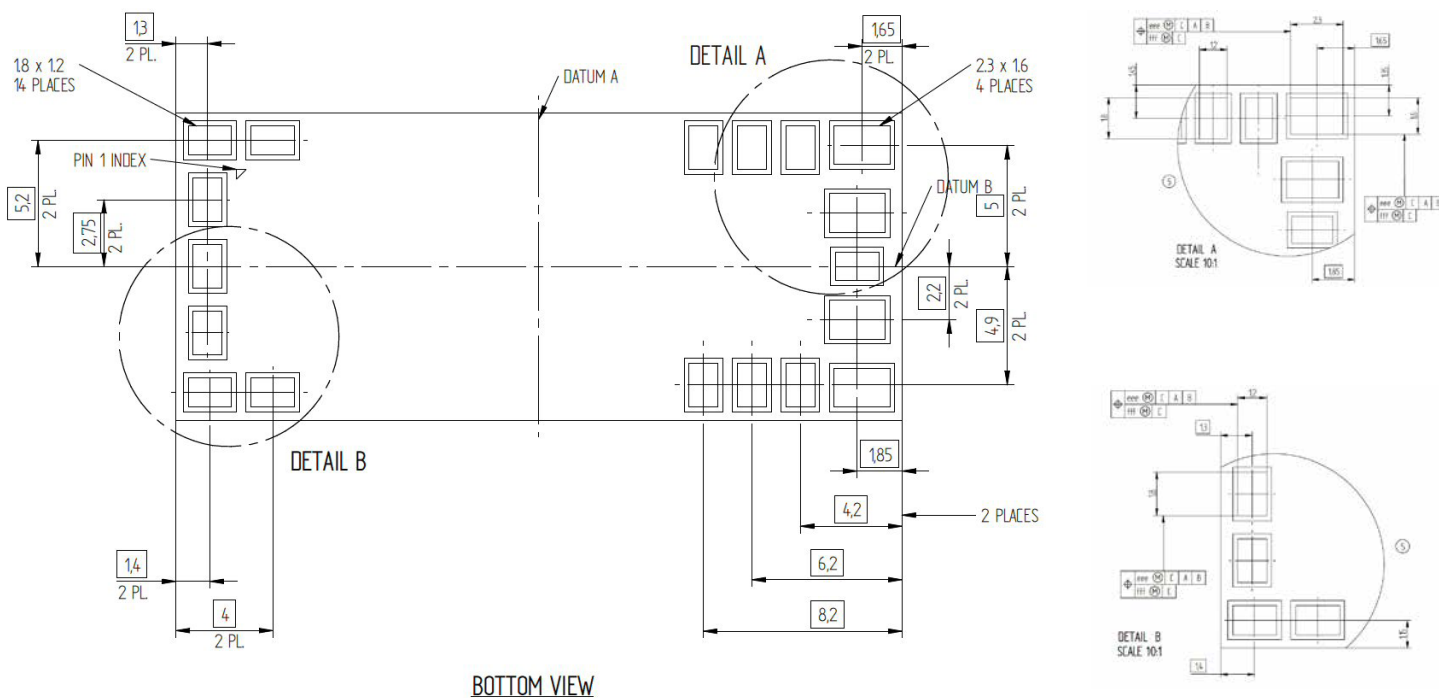
Y = 1.8 V output version

Environmental Specifications

Storage temperature	-40 to +105 °C
Ambient operating temperature	-40 to +85 °C
Baseplate operating temperature	-40 to +100 °C (no power derating)
MTBF	1 million hours target

Mechanical Diagrams

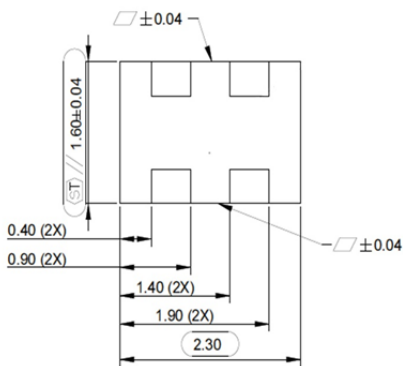
Mechanical outline and pin-out definitions



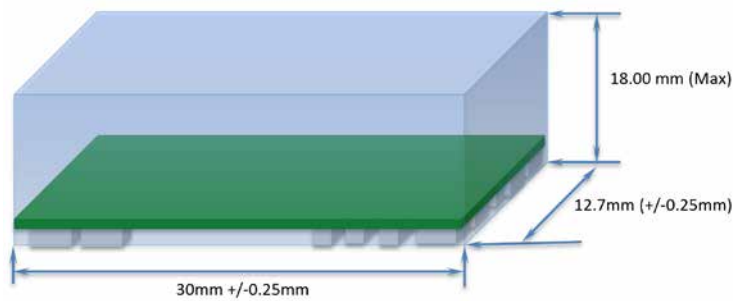
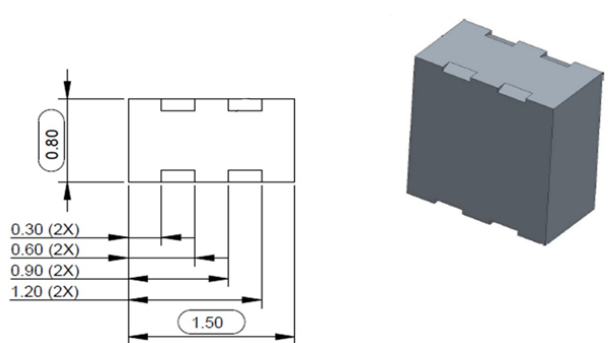
Pin 1-18 Functions					
Pin #	Pin Name	Pin Function	Pin #	Pin Name	Pin Function
1	-IN	Primary side ground connection	10	CSP	Positive current sense signal
2	+IN	Positive input voltage supply connection	11	GND	Secondary side ground connection
3	PWM_Y	PWM input Y connection	12	VOUT	Positive output voltage connection
4	VSS	Primary auxiliary voltage supply	13	CSN	Negative current sense signal
5	PWM_X	PWM input X connection	14	VOUT	Positive output voltage connection
6	+IN	Positive input voltage supply connection	15	GND	Secondary side ground connection.
7	-IN	Primary side ground connection	16	TMP	Positive temperature sense signal
8	PWM_S	Reserved for non-resonant topology; Short to GND	17	TMN	Negative temperature sense signal
9	VCC	Secondary side auxiliary voltage supply	18	START	START signal for secondary driver

Block Pin Termination Design

Block power pin dimensions



Block signal pin dimensions



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