Solitera

Advanced Technology Systems

Your Advanced Power Solutions Partner



Filters and DC/DC Converters

SDC-MIL-28-A1

330W ¾ Brick 270V input 28VDC Output Military High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 330W Isolated Output
- 3/4 Brick DC-DC converter
- Wide input range 200V ~ 400V
- High density 79W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –55°C to +95°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 4500VDC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

ABSOLUTE MAXIMUM RATINGS*

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE	-0.2VDC		400VDC	Continuous
INPUT TRANSIENT VOLTAGE	-0.2VDC		450VDC	100 msec max.
SOLDERING TEMPERATURE			260°C	< 5 sec

*** Exceeding absolute maximum ratings may cause permanent damage or reduce reliability**

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	200V	270V	400V	
TURN ON TIME		300ms	500ms	
SWITCHING FREQUENCY		300KHz		
MAXIMUM INPUT CURRENT		1.7ADC		Vin = 200V, Tc= 25ºC

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28.01 VDC	28.28 VDC	
OUTPUT CURRENT			11.7A	
TRIM ADJUST	±10%			
RIPPLE AND NOISE		1% p-p	2% p-p	20MHz BW.
LINE REGULATION		±0.5%	±1%	
LOAD REGULATION		±0.5%	±1%	
TURN ON OVERSHOOT			5%	
SENSE COMPENSATION			10%	
SHORT CIRCUIT PROTECTION			170% rated	200V< Vin < 400V, Rshort = 15mOhm
OUTPUT VOLTAGE TRIM *	±10%			See Note 1
OVER VOLTAGE PROTECTION	31.2VDC	32.9VDC	35VDC	

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		88%		
THERMAL SHUTDOWN RANGE	100 °C	105 °C		Case Temperature
TEMP COEFFICIENT			0.02%/°C	
SHUT DOWN CONTROL		Open Collector		
CURRENT SHARING (Parallel Operation)		5%		Single Wire Parallel Connection
OUTPUT GOOD SIGNAL		±10%		Active LOW
ISOLATION VOLTAGE				
(Input/Output)	4500VDC			
(Input/Case)	2500VDC			
(Output/Case)	500VDC			
ISOLATION RESISTANCE	10^7 ohm			Input-to-Output Resistance

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ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING TEMPERATURE RANGE	-55°C		+95°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+125 °C	
HUMIDITY	MIL-STD-810C, Method 507.1, Proc. IV MIL-STD-810F, Method 507.4			
ALTITUDE	up to 70,000 ft			
SALT FOG	MIL-STD-810C, Method 509.1, Proc. I MIL-STD-810F, Method 509.4			
VIBRATION	MIL-E-5400T, Curve IVa, 5Hz to 2KHz			
SHOCK	MIL-S-901C-D, Grade A, Type A, Class 1 High Impact Shock			
MTBF	1.100.000hrs			MIL-HDBK-217F, @60°C baseplate

PHYSICAL CHARACTERISTICS

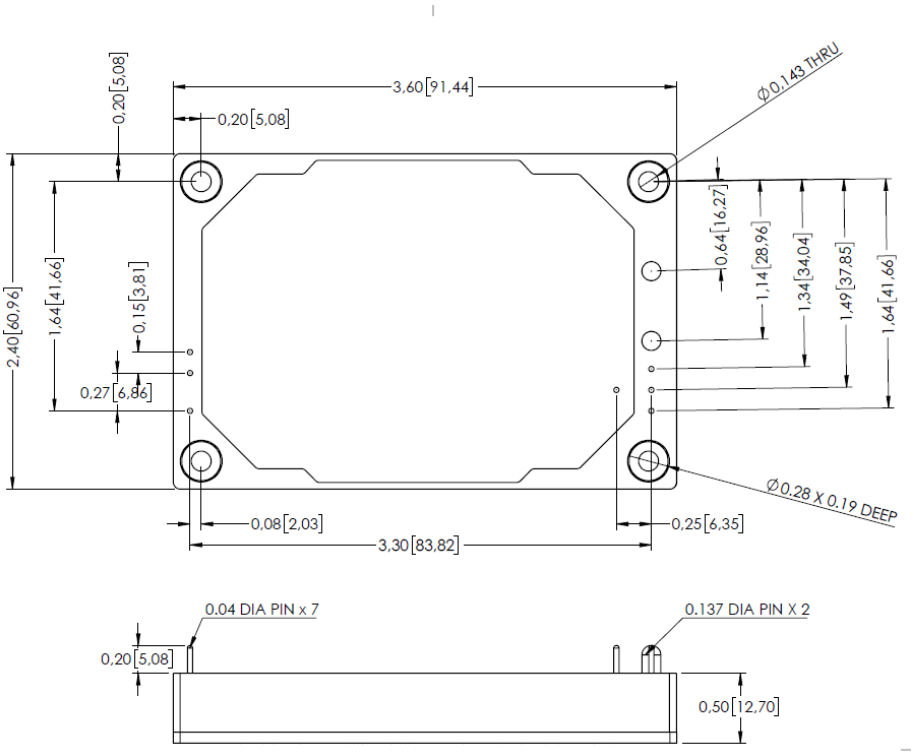
Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS (LxWxH)		3.6×2.40x0.50 inches (91.4x61.0×12.7 mm)		¾ Brick
WEIGHT		165g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

NOTES:

1. Consult Solitera for trim adjust details.

MECHANICAL DIMENSIONS (**)

Dimensions in inches (in mm), for reference only.



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SDC-MIL-HP-628

600W 270V input 28VDC Output
Military High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 600W Isolated Output
- Wide input range 200V ~ 400V
- High density 80W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –55°C to +100°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 4500VDC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

ABSOLUTE MAXIMUM RATINGS*

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE	-0.2VDC		400VDC	Continuous
INPUT TRANSIENT VOLTAGE	-0.2VDC		450VDC	100 msec max.
SOLDERING TEMPERATURE			260°C	< 5 sec

*** Exceeding absolute maximum ratings may cause permanent damage or reduce reliability**

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	200V	270V	400V	
TURN ON TIME		300ms	500ms	
SWITCHING FREQUENCY	280Khz	300KHz	330Khz	
MAXIMUM INPUT CURRENT		3ADC		Vin = 200V, Tc= 25ºC

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28.01 VDC	28.28 VDC	
OUTPUT CURRENT			21.4A	
TRIM ADJUST	±10%			
RIPPLE AND NOISE		1.5% p-p	2.5% p-p	20MHz BW.
LINE REGULATION		±0.5%	±1%	
LOAD REGULATION		±0.5%	±1%	
TURN ON OVERSHOOT			5%	
SENSE COMPENSATION			10%	
SHORT CIRCUIT PROTECTION			170% rated	200V< Vin < 400V, Rshort = 15mOhm
OUTPUT VOLTAGE TRIM *	±10%			See Note 1
OVER VOLTAGE PROTECTION	31.2VDC	32.9VDC	35VDC	

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		87%		
THERMAL SHUTDOWN RANGE	105 °C	110 °C		Case Temperature
TEMP COEFFICIENT			0.02%/°C	
SHUT DOWN CONTROL		Open Collector		
CURRENT SHARING (Parallel Operation)		5%		Single Wire Parallel Connection
OUTPUT GOOD SIGNAL		±10%		Active LOW
ISOLATION VOLTAGE				
(Input/Output)	4500VDC			
(Input/Case)	2500VDC			
(Output/Case)	500VDC			
ISOLATION RESISTANCE	10^7 ohm			Input-to-Output Resistance

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ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING TEMPERATURE RANGE	-55°C		+100°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+125 °C	
HUMIDITY	MIL-STD-810C, Method 507.1, Proc. IV MIL-STD-810F, Method 507.4			
ALTITUDE	up to 70,000 ft			
SALT FOG	MIL-STD-810C, Method 509.1, Proc. I MIL-STD-810F, Method 509.4			
VIBRATION	MIL-E-5400T, Curve IVa, 5Hz to 2KHz			
SHOCK	MIL-S-901C-D, Grade A, Type A, Class 1 High Impact Shock			
MTBF	900.000hrs			MIL-HDBK-217F, @60°C baseplate

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS (LxWxH)		4.3×2.70x0.80 inches (109.2x68.6×20.2 mm)		Custom Dimensions
WEIGHT		220g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

NOTES:

1. Consult Solitera for trim adjust details.

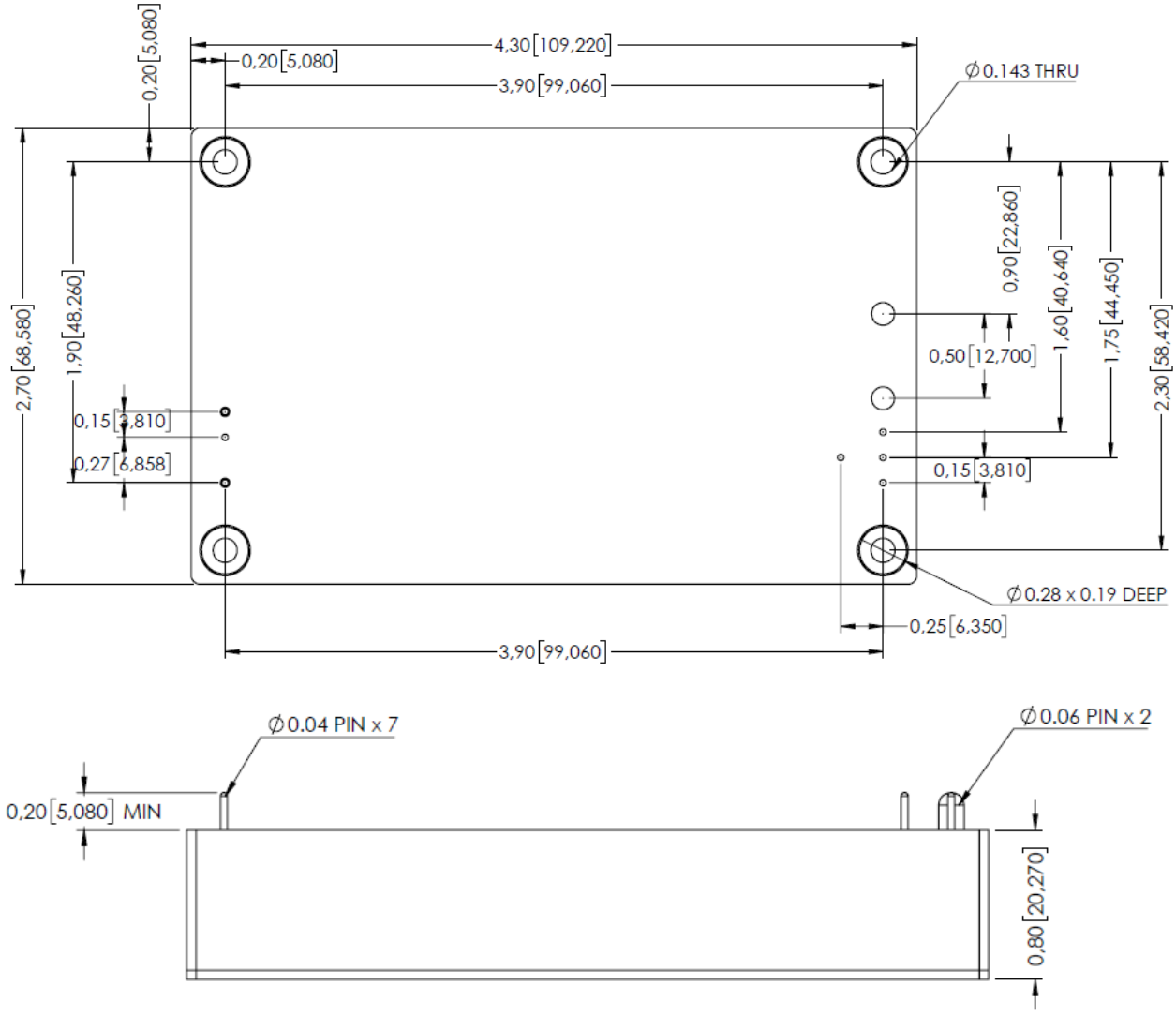
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MECHANICAL DIMENSIONS (**)

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SDC-MIL-UHP-1028

1000W 270V input 28VDC Output
Military High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 1000W Isolated Output
- Wide input range 200V ~ 400V
- High density 80W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –55°C to +100°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 4500VDC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

ABSOLUTE MAXIMUM RATINGS*

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE	-0.2VDC		400VDC	Continuous
INPUT TRANSIENT VOLTAGE	-0.2VDC		450VDC	100 msec max.
SOLDERING TEMPERATURE			260°C	< 5 sec

*** Exceeding absolute maximum ratings may cause permanent damage or reduce reliability**

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	200V	270V	400V	
TURN ON TIME		300ms	500ms	
SWITCHING FREQUENCY		200KHz		
MAXIMUM INPUT CURRENT		5ADC		Vin = 200V, Tc= 25ºC

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28.01 VDC	28.28 VDC	
OUTPUT CURRENT			35.7A	
TRIM ADJUST	±10%			
RIPPLE AND NOISE		1.5% p-p	2.5% p-p	20MHz BW.
LINE REGULATION		±0.5%	±1%	
LOAD REGULATION		±0.5%	±1%	
TURN ON OVERSHOOT			5%	
SENSE COMPENSATION			10%	
SHORT CIRCUIT PROTECTION			170% rated	200V< Vin < 400V, Rshort = 15mOhm
OUTPUT VOLTAGE TRIM *	±10%			See Note 1
OVER VOLTAGE PROTECTION	31.2VDC	32.9VDC	35VDC	

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		88%		
THERMAL SHUTDOWN RANGE	105 °C	110 °C		Case Temperature
TEMP COEFFICIENT			0.02%/°C	
SHUT DOWN CONTROL		Open Collector		
CURRENT SHARING (Parallel Operation)		5%		Single Wire Parallel Connection
OUTPUT GOOD SIGNAL		±10%		Active LOW
ISOLATION VOLTAGE				
(Input/Output)	4500VDC			
(Input/Case)	2500VDC			
(Output/Case)	500VDC			
ISOLATION RESISTANCE	10^7 ohm			Input-to-Output Resistance

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ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING TEMPERATURE RANGE	-55°C		+100°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+125 °C	
HUMIDITY	MIL-STD-810C, Method 507.1, Proc. IV MIL-STD-810F, Method 507.4			
ALTITUDE	up to 70,000 ft			
SALT FOG	MIL-STD-810C, Method 509.1, Proc. I MIL-STD-810F, Method 509.4			
VIBRATION	MIL-E-5400T, Curve IVa, 5Hz to 2KHz			
SHOCK	MIL-S-901C-D, Grade A, Type A, Class 1 High Impact Shock			
MTBF	880.000hrs			MIL-HDBK-217F, @60°C baseplate

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS (LxWxH)		4.3×2.70x0.80 inches (109.2x68.6×20.2 mm)		Custom Dimensions
WEIGHT		240g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

NOTES:

1. Consult Solitera for trim adjust details.

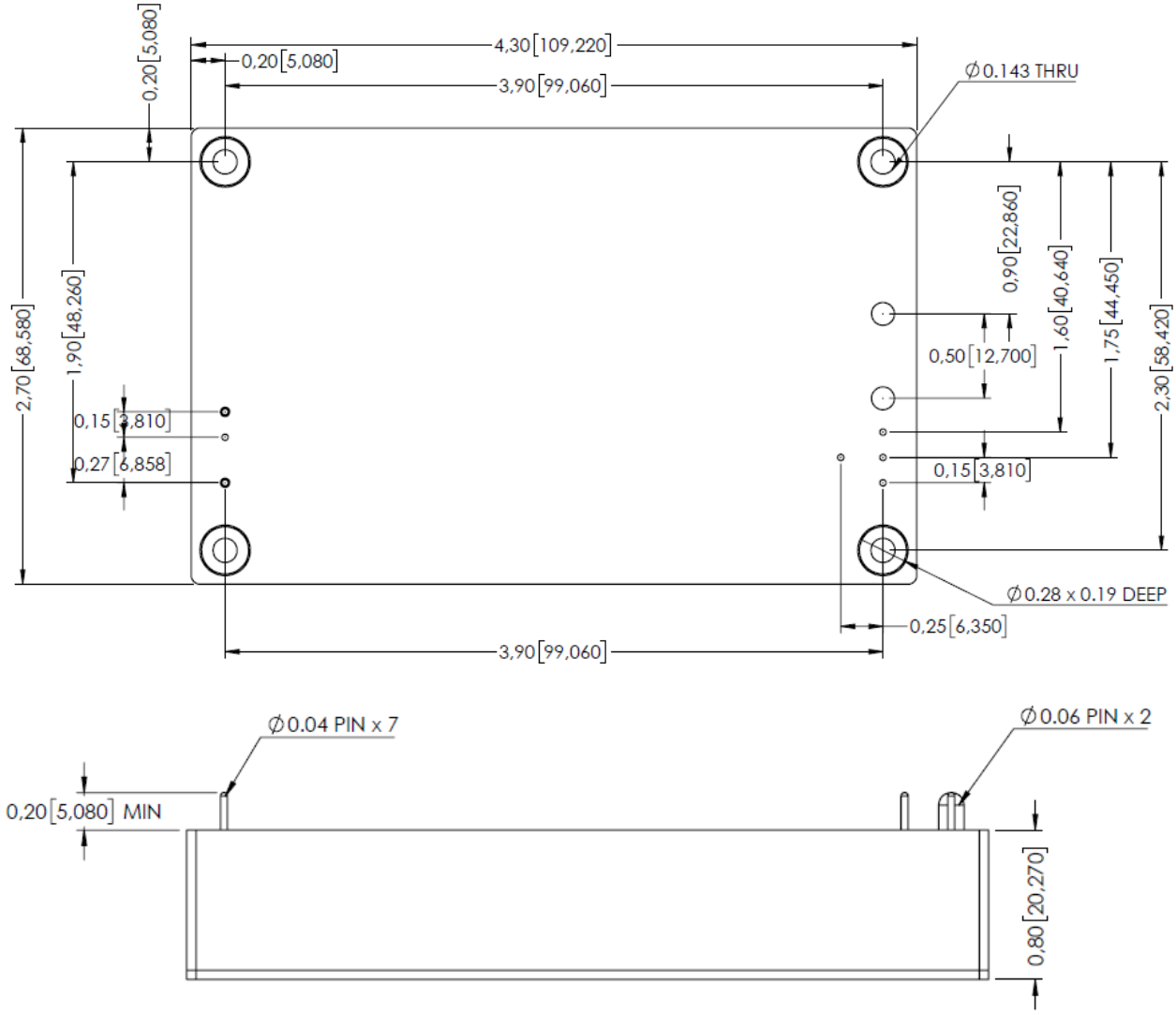
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MECHANICAL DIMENSIONS (**)

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SRF-MIL-01-A

115VAC 3Ø 400Hz Military High Density Rectifier Filter Module



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC military/industry standards converters from 50W-750W and filters which can be used to build a complete solution for the power systems.

The SRF Rectifier Filter module accepts 3Ø 200VAC L-L 400Hz, which it full wave rectifies and filters to achieve 270VDC at the output. While rectifying AC input, SRF has also EMI filtering features which meet MIL-STD-461C CE03 and MIL-STD-461D-E CE102. This rectifier/filter is specifically designed to interface with Solitera SDC series converter products.

The SRF Rectifier Filter module provides both differential and common mode filtering.

FEATURES

- Max. 830W Output
- MIL-STD-704A-F compatible
- Matched with Solitera Converters
- –55°C to +125°C Operating Range
- MIL-S-901C Shock
- MIL-STD-810C compatible
- MIL-STD-461C CE03 (Narrow Band&Broadband) Compatible
- MIL-STD-461D-E CE102 Compatible
- Conduction Cooling
- No External Components Required
- Ruggedized
- No aluminum electrolytic capacitors
- Isolated Case
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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ELECTRICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	160VAC **L-L** 400Hz	200VAC **L-L** 400Hz	270VAC **L-L** 400Hz	Steady state per MIL-STD-704A-F
INPUT TRANSIENTS	110 **L-L**		320 **L-L**	Steady state per MIL-STD-704A-F
OUTPUT VOLTAGE		Rectified 3ø AC		270V @200VAC L-L 400Hz
OUTPUT CURRENT			3.1A	
EFFICIENCY	95%			
POWER FACTOR		1% p-p	2% p-p	20MHz BW.
LINE REGULATION	0.94	0.95		
ISOLATION VOLTAGE				
(Input/Output)	Non-Isolated			
(Input/Case)		10Mohm @1000VDC		
(Output/Case)		10Mohm @1000VDC		

ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING TEMPERATURE RANGE	-55°C		+125°C	Conductive Cooling with baseplate
STORAGE TEMPERATURE RANGE	-55°C		+130 °C	
HUMIDITY	MIL-STD-810C, Method 507.1, Proc. IV MIL-STD-810F, Method 507.4			
ALTITUDE	up to 70,000 ft			
SALT FOG	MIL-STD-810C, Method 509.1, Proc. I MIL-STD-810F, Method 509.4			
VIBRATION	MIL-E-5400T, Curve IVa, 5Hz to 2KHz			
SHOCK	MIL-S-901C-D, Grade A, Type A, Class 1 High Impact Shock			
MTBF	160.000hrs			MIL-HDBK-217F, @60°C baseplate

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS (LxWxH)		See Mechanical Drawings		
WEIGHT			445g	
CONSTRUCTION		Fully Alumunium Shielded		

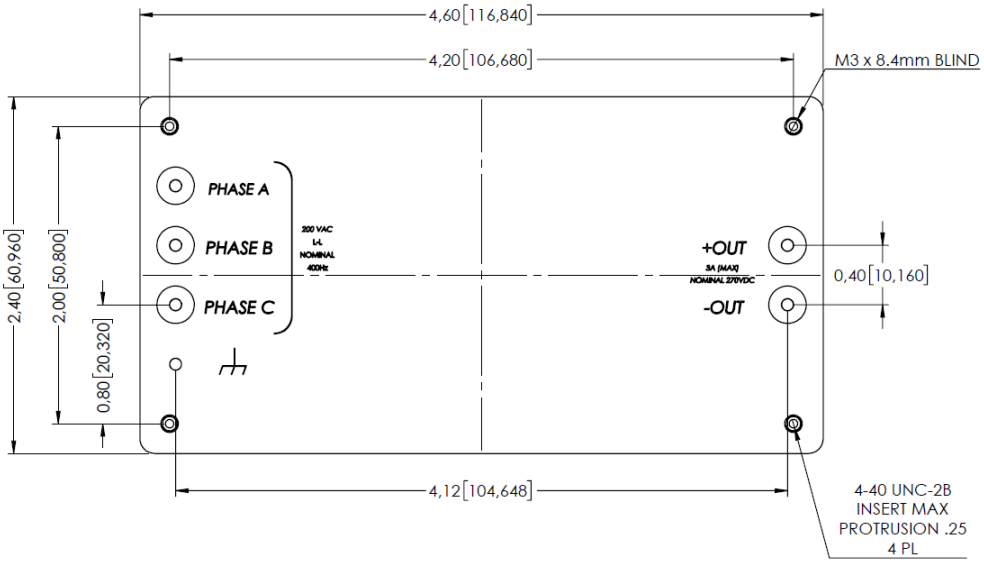
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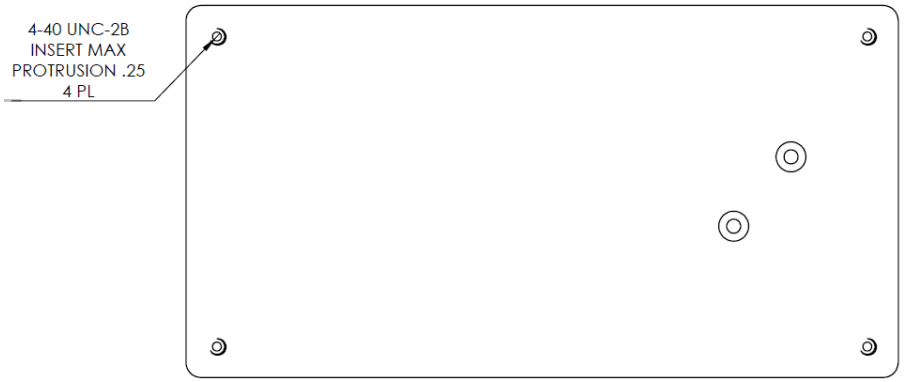
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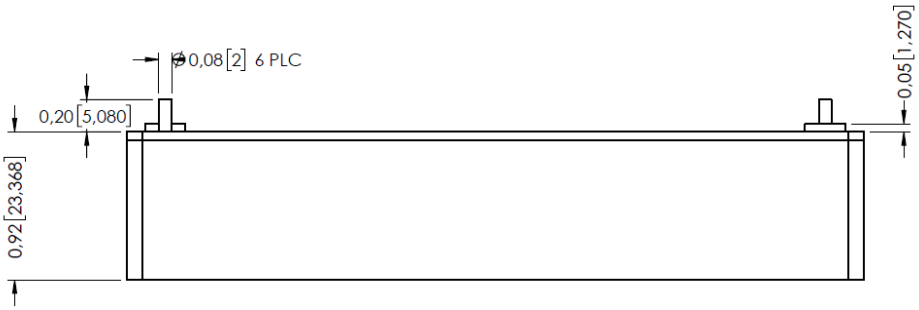
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MECHANICAL DIMENSIONS (**)

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SDC-M150-5A

150W Wide input range 5VDC High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 150W Isolated Output
- Quarter Brick DC-DC converter
- Wide input range 100V ~ 400V
- High density 80W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –40°C to +105°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 3000VAC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE		5 VDC		
OUTPUT CURRENT			30A	
VOLTAGE ACCURACY			±1.0% max	
RIPPLE AND NOISE			100mVpk-pk	20MHz BW. (See Note 3)
LINE REGULATION			±0.2%	(See Note 1)
LOAD REGULATION			±0.2%	(See Note 2)
SHORT CIRCUIT PROTECTION		Continuous		
OUTPUT VOLTAGE TRIM	-20%		+10%	%Vo (Adjustment Range)
CURRENT LIMIT	110%	160%		Nominal Output

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	100V	250V	400V	
INPUT UNDER VOLTAGE LOCKOUT				
POWER UP		98V		
POWER DOWN		95V		
POSITIVE LOGIC REMOTE ON/OFF CTRL				
MODULE OFF		0 to < 1.2VDC		
MODULE ON		>3.5Vdc to 75Vdc or Open Circuit		
INPUT FILTER		PI Network		

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		84%		
SWITCHING FREQUENCY		200KHz		
ISOLATION VOLTAGE				
(Input/Output)	3000VAC			
(Input/Case)	2500VAC			
(Output/Case)	500VAC			
ISOLATION RESISTANCE	10^7 ohm			

ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING CASE TEMPERATURE RANGE	-40°C		+105°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+125 °C	
HUMIDITY			95% RH	Non Condensing
THERMAL SHUTDOWN RANGE		110 °C		Case Temperature
MTBF		750Khrs		MIL-HDBK-217F, GB

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS		2.28×1.45x0.50 inches (57.9x36.8×12.7 mm)		
WEIGHT		65g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

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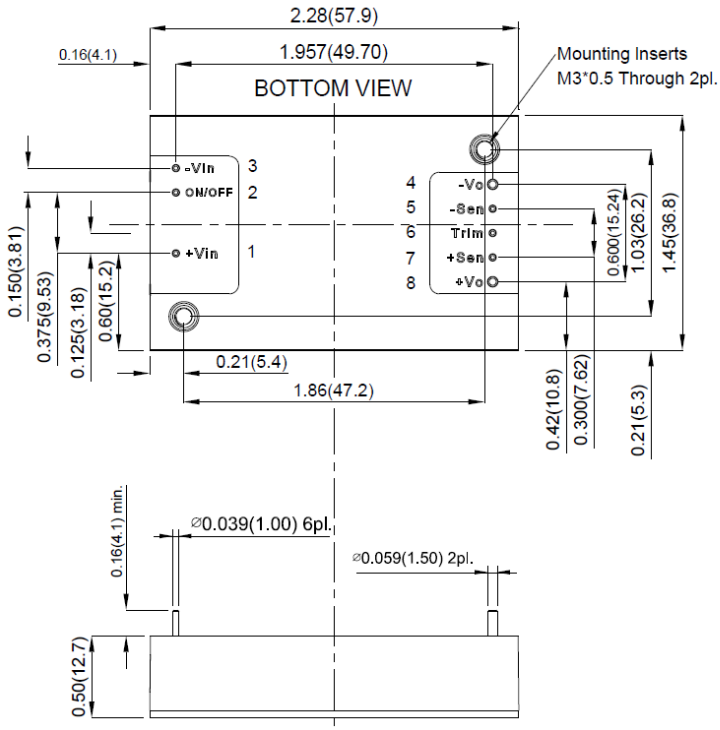
NOTES:

1. LINE REGULATION: measured from high line to low line.
2. LOAD REGULATION: measured from zero load to full load.
3. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output.
4. –V input to base plate with a ceramic capacitor 3KVAC/1500pF.
5. An external input capacitor 180uF is recommended to reduce input ripple voltage.

MECHANICAL DIMENSIONS (**)

Dimensions in inches (in mm), for reference only.

All Dimensions in Inches(mm)
Tolerance Inches:x.xx=±0.02 ,x.xxx=±0.010
Millimeters:x.x=±0.5 , x.xx=±0.25



PIN CONNECTION	
PIN	Function
1	+V Input
2	On/Off
3	-V Input
4	-V Output
5	-Sense
6	Trim
7	+Sense
8	+V Output

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SDC-M300-28A

300W Wide input range 28VDC High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 300W Isolated Output
- Half Brick DC-DC converter
- Wide input range 100V ~ 400V
- High density 80W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –40°C to +100°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 3000VAC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28 VDC	28.28 VDC	
OUTPUT CURRENT			10.7A	
VOLTAGE ACCURACY			±1.0% max	
RIPPLE AND NOISE			280mVpk-pk	20MHz BW. (See Note 3)
LINE REGULATION			±0.2%	(See Note 1)
LOAD REGULATION			±0.2%	(See Note 2)
SHORT CIRCUIT PROTECTION		Continuous		
OUTPUT VOLTAGE TRIM	-20%		+10%	%Vo(Adjustment Range)
OVER VOLTAGE PROTECTION	115%		140%	
CURRENT LIMIT	105%	140%		Nominal Output

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	100V	250V	400V	
INPUT UNDER VOLTAGE LOCKOUT				
POWER UP		98V		
POWER DOWN		95V		
POSITIVE LOGIC REMOTE ON/OFF CTRL				
MODULE OFF		0 to < 1.2VDC		
MODULE ON		>3.5Vdc to 75Vdc or Open Circuit		
INPUT FILTER		PI Network		

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		88%		
SWITCHING FREQUENCY		200KHz		
ISOLATION VOLTAGE				
(Input/Output)	3000VAC			
(Input/Case)	2500VAC			
(Output/Case)	500VAC			
ISOLATION RESISTANCE	10^7 ohm			

ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING CASE TEMPERATURE RANGE	-40°C		+100°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+105 °C	
HUMIDITY			95% RH	Non Condensing
THERMAL SHUTDOWN RANGE		105 °C		Case Temperature
MTBF		370Khrs		MIL-HDBK-217F, GB

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS		2.28×2.40x0.50 inches (57.9x61.0×12.7 mm)		
WEIGHT		95g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

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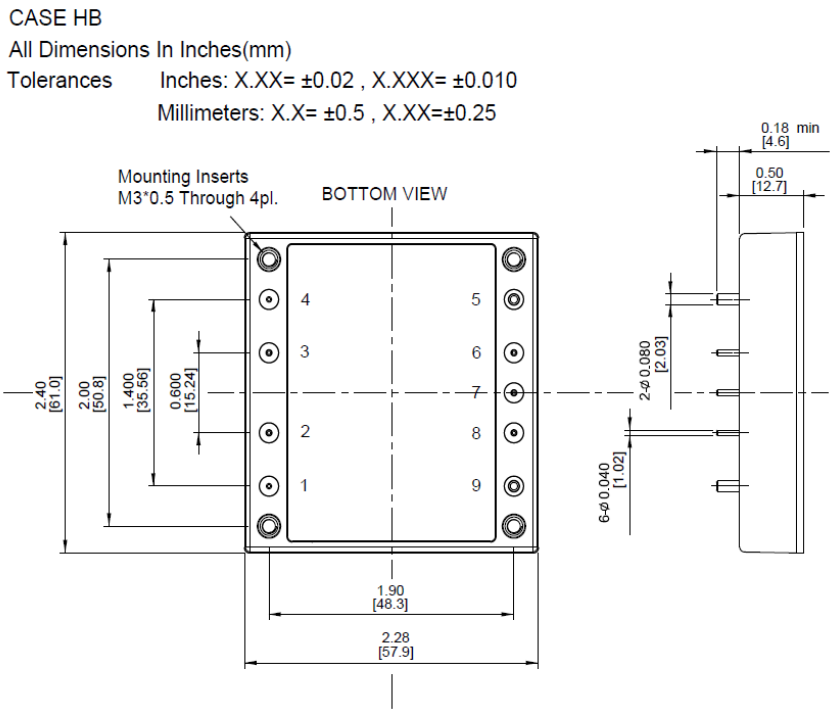
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NOTES:

1. LINE REGULATION: measured from high line to low line
2. LOAD REGULATION: measured from full load to zero load
3. An external input capacitor 180uF recommended to reduce input ripple voltage
4. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output

MECHANICAL DIMENSIONS (**)

Dimensions in inches (in mm), for reference only.



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SDC-H600-28A

600W Wide input range 28VDC High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 600W Isolated Output
- Full Brick DC-DC converter
- Wide input range 100V ~ 400V
- High density 78W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –40°C to +85°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 3000VAC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28 VDC	28.28 VDC	
OUTPUT CURRENT			21.4A	
VOLTAGE ACCURACY			±1.0%	
RIPPLE AND NOISE			300mV RMS max., 600mV pk-pk max	20MHz BW. (See Note 3)
LINE REGULATION			±0.2%	(See Note 1)
LOAD REGULATION			±0.5%	(See Note 2)
SHORT CIRCUIT PROTECTION		Continuous		
OUTPUT VOLTAGE TRIM	60%		+110%	%Vo(Adjustment Range)
OVER VOLTAGE PROTECTION	115%		140%	
CURRENT LIMIT	105%	125%		Nominal Output

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	100V	250V	400V	
INPUT UNDER VOLTAGE LOCKOUT				
POWER UP		98V		
POWER DOWN		95V		
POSITIVE LOGIC REMOTE ON/OFF CTRL				
MODULE OFF		0 to < 1.2VDC		
MODULE ON		>3.5Vdc to 75Vdc or Open Circuit		
INPUT FILTER		C Typ		

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		91%		
SWITCHING FREQUENCY		200KHz		
ISOLATION VOLTAGE				
(Input/Output)	3000VAC			
(Input/Case)	2500VAC			
(Output/Case)	500VAC			
ISOLATION RESISTANCE	10^7 ohm			

ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING TEMPERATURE RANGE	-40°C		+85°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+105 °C	
HUMIDITY			95% RH	Non Condensing
THERMAL SHUTDOWN RANGE		105 °C		Case Temperature
MTBF		370Khrs		MIL-HDBK-217F, GB

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS		4.60×2.40x0.50 inches (116.8x61.0×12.7 mm)		
WEIGHT		225g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

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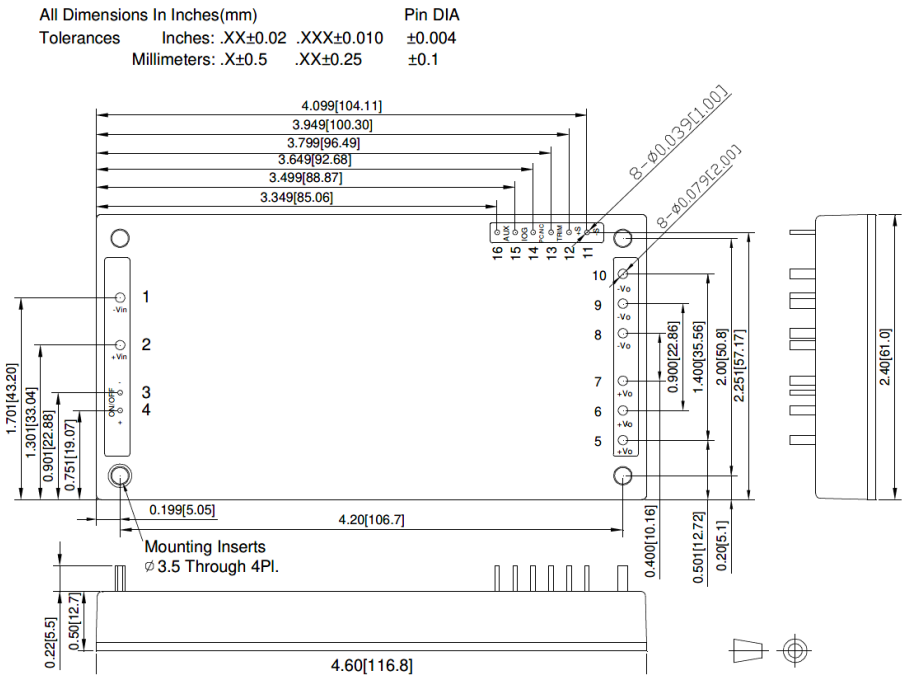
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NOTES:

1. Line regulation: Measured from high line to low line
2. Load regulation: Measured from full load to zero load.
3. The Output ripple and noise measured with 1uF ceramic capacitor and 1000uF aluminum capacitor across output.
4. The output terminal required a minimum capacitor 1000uF to maintain specified regulation.
5. An external input capacitor 330uF recommended to reduce input ripple voltage

MECHANICAL DIMENSIONS (**)

Dimensions in inches (in mm), for reference only.



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	+Vin
3	-ON/OFF
4	+ON/OFF
5 - 7	+Vo
8 - 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOG
16	AUX

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SDC-H750-28A

750W Wide input range 28VDC High Density DC-DC Converter



Solitera Advanced Technology Systems offers a variety of high input voltage DC-DC converters from 50W-750W in military and industry standards quarter, half and full brick sizes.

They provide a 270Vdc/300Vdc nominal input (with an input range of 100 to 400Vdc) and 3000VAC reinforced isolation.

These converters are ideal for use in rugged, thermally challenged applications requiring baseplate cooled applications such as military systems, railway systems, distributed power architectures, telecommunications, servers, base station, battery operated equipment, and industrial applications, RF/power amplifiers, commercial avionics and industrial control.

Solitera second-generation high-density DC/DC converters have highly efficient power design and advanced thermal management techniques including insulated metal substrate technology, specialty dielectrics and formulated thermally conductive potting to produce small, ruggedized DC/DC converters with reduced temperature rise and increased reliability.

FEATURES

- 750W Isolated Output
- Full Brick DC-DC converter
- Wide input range 100V ~ 400V
- High density 80W/in3
- Fixed frequency operation
- Single Wire Parallel with current sharing
- Fixed frequency operation
- External trim adjust requirements
- Remote On/Off
- Ruggedized
- –40°C to +85°C operating temperature
- No aluminum electrolytic capacitors
- Fully Isolated 3000VAC
- Custom models available
- Consult **Solitera Advanced Technologies** for special requirements

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All Specifications are Typical at Nominal Line, Full load, and 25°C Unless Otherwise Noted

OUTPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OUTPUT VOLTAGE	27.72 VDC	28 VDC	28.28 VDC	
OUTPUT CURRENT			26.7A	
VOLTAGE ACCURACY			±1.0%	
RIPPLE AND NOISE			300mV RMS max., 600mV pk-pk max	20MHz BW. (See Note 3)
LINE REGULATION			±0.2%	(See Note 1)
LOAD REGULATION			±0.5%	(See Note 2)
SHORT CIRCUIT PROTECTION		Continuous		
OUTPUT VOLTAGE TRIM	60%		+110%	%Vo(Adjustment Range)
OVER VOLTAGE PROTECTION	115%		140%	
CURRENT LIMIT	105%	125%		Nominal Output

INPUT SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
INPUT VOLTAGE RANGE	100V	250V	400V	
INPUT UNDER VOLTAGE LOCKOUT				
POWER UP		98V		
POWER DOWN		95V		
POSITIVE LOGIC REMOTE ON/OFF CTRL				
MODULE OFF		0 to < 1.2VDC		
MODULE ON		>3.5Vdc to 75Vdc or Open Circuit		
INPUT FILTER		C Typ		

GENERAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
EFFICIENCY		90%		
SWITCHING FREQUENCY		200KHz		
ISOLATION VOLTAGE				
(Input/Output)	3000VAC			
(Input/Case)	2500VAC			
(Output/Case)	500VAC			
ISOLATION RESISTANCE	10^7 ohm			

ENVIRONMENTAL SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Conditions
OPERATING CASE TEMPERATURE RANGE	-40°C		+85°C	With baseplate
STORAGE TEMPERATURE RANGE	-55°C		+105 °C	
HUMIDITY			95% RH	Non Condensing
THERMAL SHUTDOWN RANGE		105 °C		Case Temperature
MTBF		370Khrs		MIL-HDBK-217F, GB

PHYSICAL CHARACTERISTICS

Parameter	Minimum	Typical	Maximum	Conditions
DIMENSIONS		4.60×2.40x0.50 inches (116.8x61.0×12.7 mm)		
WEIGHT		235g		
CASE MATERIAL		Aluminum Baseplate with Plastic Case		

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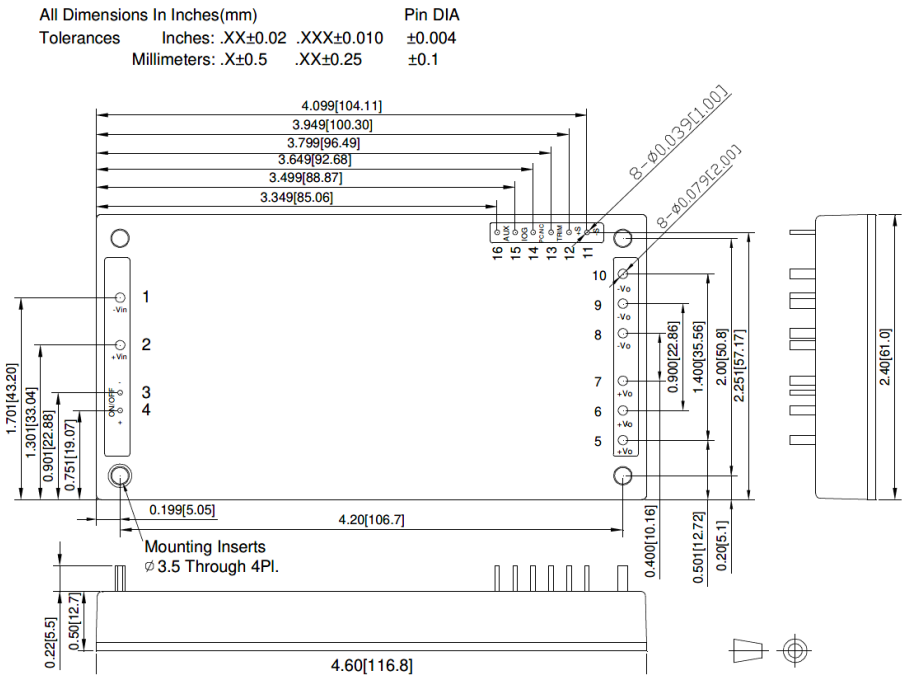
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NOTES:

1. Line regulation: Measured from high line to low line
2. Load regulation: Measured from full load to zero load.
3. The Output ripple and noise measured with 1uF ceramic capacitor and 1000uF aluminum capacitor across output.
4. The output terminal required a minimum capacitor 1000uF to maintain specified regulation.
5. An external input capacitor 330uF recommended to reduce input ripple voltage

MECHANICAL DIMENSIONS (**)

Dimensions in inches (in mm), for reference only.



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	+Vin
3	-ON/OFF
4	+ON/OFF
5 - 7	+Vo
8 - 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOG
16	AUX

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SPACE Grade

Solitera Radiation Hardened DC/DC Converters

SOLITERA Space Grade DC-DC converters and filters are available up to Class K and radiation hardened to RHA levels of P 30, L 50 or R 100 krad(Si). Our space EMI filters are compliant up to Class H or K and radiation hardened to RHA H, 1000 krad(Si) TID.







GENERAL FEATURES

- Operating temperature -55° to +125°C
- Qualified to MIL-PRF-38534 Class H and K
- Radiation hardness assurance (RHA) P, L or R
- Fully Isolated
- Transient protection 80 V for 50 ms
- 3.3V, 5V, 12V, 15V, ±5, ±12, ±15 output models are available
- High power density, 85% efficiency
- Input voltage range 16 to 80 VDC
- Indefinite short circuit protection
- No aluminum electrolytic capacitors
- Custom models available

*Contact **SOLITERA Advanced Technology Systems** for special design and verification requirements of Space Grade DC-DC converters and filters*

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