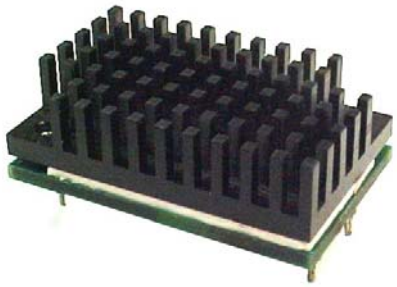
ISOLATED DC/DC CONVERTERS

48 VDC Input 9.3VDC/36.5 A Output, 1/4 Brick

07CM-38S10L RoHS 5 Compliant Rev.C



- Industry standard quarter-brick package
- Up to 300 W at 95% efficiency
- 1500 V isolation
- Safety Agency Approvals

Description

The 07CM-38S "Cimarron" Series are isolated DC/DC converters that operate from a nominal 48 VDC source. These converters use a full bridge power train to provide isolation and step down. These units will provide up to 300 W of output power from a nominal 54 VDC input. These units are designed to be highly efficient and low cost. Features include remote on/off, over current protection and under voltage lockout. These converters are provided in an industry standard quarter -brick package.

Part Selection

Output Voltage	Input Voltage	Max. Output Current	Max. Output Power	Typical Efficiency	Model Number
9.3 Vdc	48 Vdc	36.5 A	300 W	95%	07CM-38S10L

Notes: 1. Add "G" suffix at the end of the model number to indicate Tray Packaging.
2. All part numbers above indicate RoHS 5. Change the second letter "7" to "R" for RoHS 6 part numbers.

Input Specifications

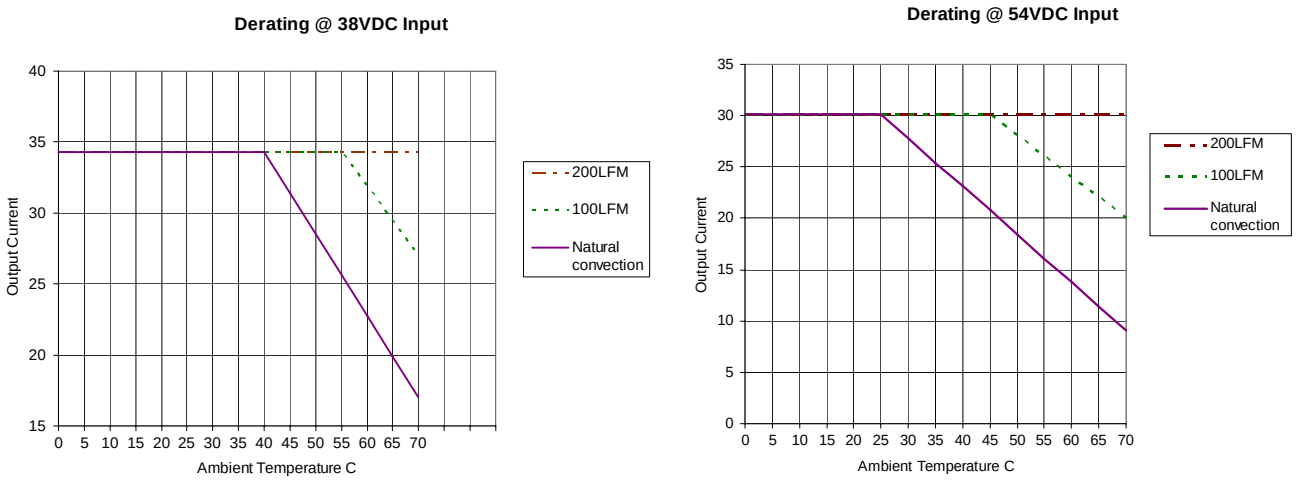
Parameter	Min	Typ	Max	Notes
Input Voltage Range	36 V	-	55 V	
Input Current (no load)	-	-	110 mA	
Input Current (full load)	-	-	7.2 A	
Reflected Ripple Current (rms)	-	-	200 mA	See figure 1 for measurement technique
Under-voltage Lockout Turn-on Turn off	 - -	 35.8 V 33.8 V	 - -	
Over-voltage Lockout	-	57.1 V	-	

Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage 36Vin 48Vin 55Vin	 - - -	 7.0 V 9.3 V 10.6 V	 - - -	Setpoint at no load.
Output Current	0 A	-	36.5 A	
Output Power	-	-	300 W	
Load Regulation	-	-	0.6 V	
Ripple and Noise (pk-pk)	-	-	150 mV	0 to 20 MHz Bandwidth, use 1.0 uF ceramic cap and 100 uF/50mOhm tantalum on output
Load Capacitance	100 uF (50mohm)	-	3000 uF	
Transient Response Max deviation Recovery to within ± 1%	 - -	 150 mV 50 uS	 250 mV 100 uS	di/dt =0 .1 A/uS, Vin =48 V Ta = 25 °C, 25% load change.

General Specifications

Parameter	Min	Typ	Max	Notes
Switching Frequency	-	96 kHz	-	fixed
Weight	-	56 g (2.0oz)	-	
Operating Temperature	-40 °C	-	85 °C	
Non-Operating Temperature	-55 °C	-	125 °C	
Overtemp Shutdown	-	120 °C	-	10 °C hysteresis measured on Q4
Dimensions Inches (L × W × H) Millimeters (L × W × H)		2.28 x 1.45 x 1.00 57.9 x 36.8 x 25.4		
Protection Features Short circuit Over current Undervoltage Overvoltage		Latching 110% to 125% max Io UVLO Vin < 35.0 OVSD Vin>57.0		
Remote On/Off Active Low (Optional Active High) Turn on delay Outupt voltage rise time	 0 V 1.0 V - -	 - - 2.7 ms 4.3 ms	 0.4 V 18 V - -	
Safety Agency Approvals (pending)	UL / cUL Recognized Certified to EN60950			



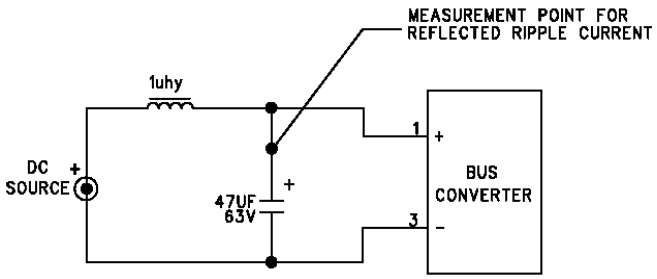
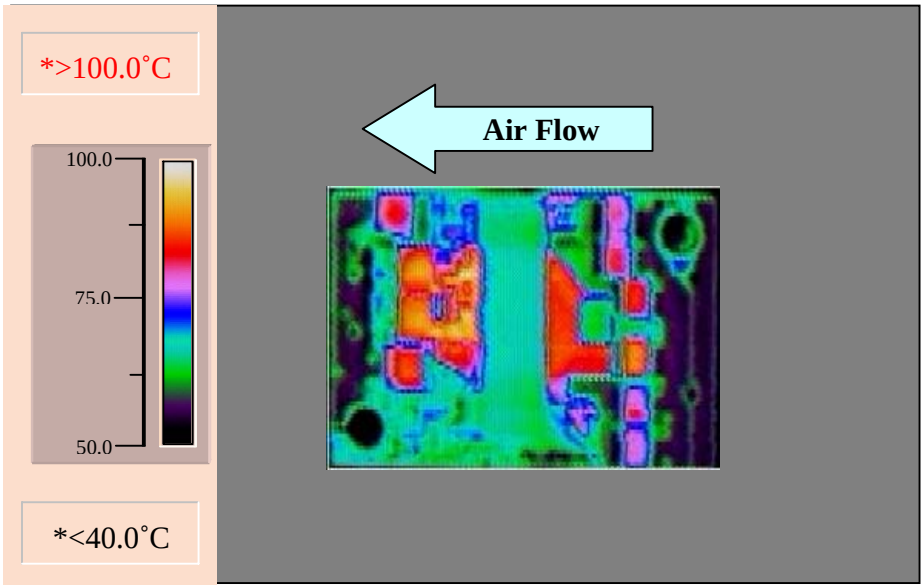


Figure 1: Measurement circuit for reflected ripple current.

Thermal Images

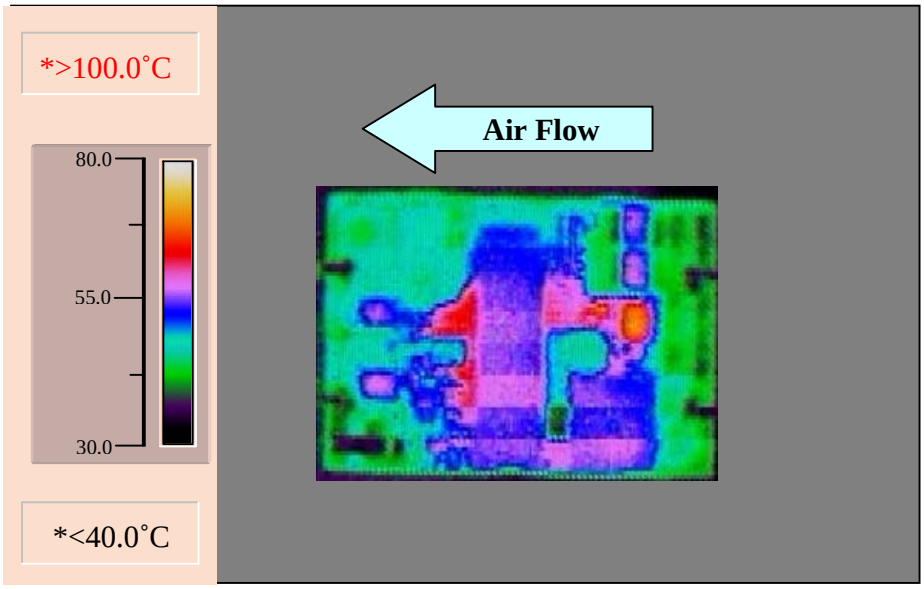
Top Side of Unit
w/o Heatsink

Vin: 39 Vdc
Iout: 33.2 A
Pout: 240 W
Tamb: 22 C
Airflow: 200 LFM



Bottom Side of Unit

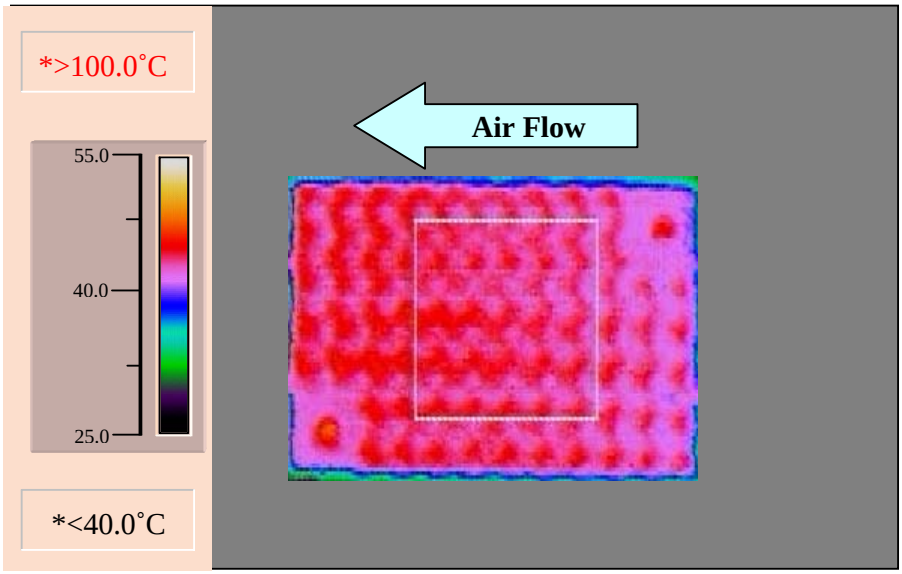
Vin: 39 Vdc
Iout: 33.2 A
Pout: 240 W
Tamb: 22 C
Airflow: 200 LFM



Thermal Images (continued)

Top Side of Unit
w/ 0.5" heatsink

Vin: 39 Vdc
Iout: 33.2 A
Pout: 240 W
Tamb: 22 C
Airflow: 200 LFM



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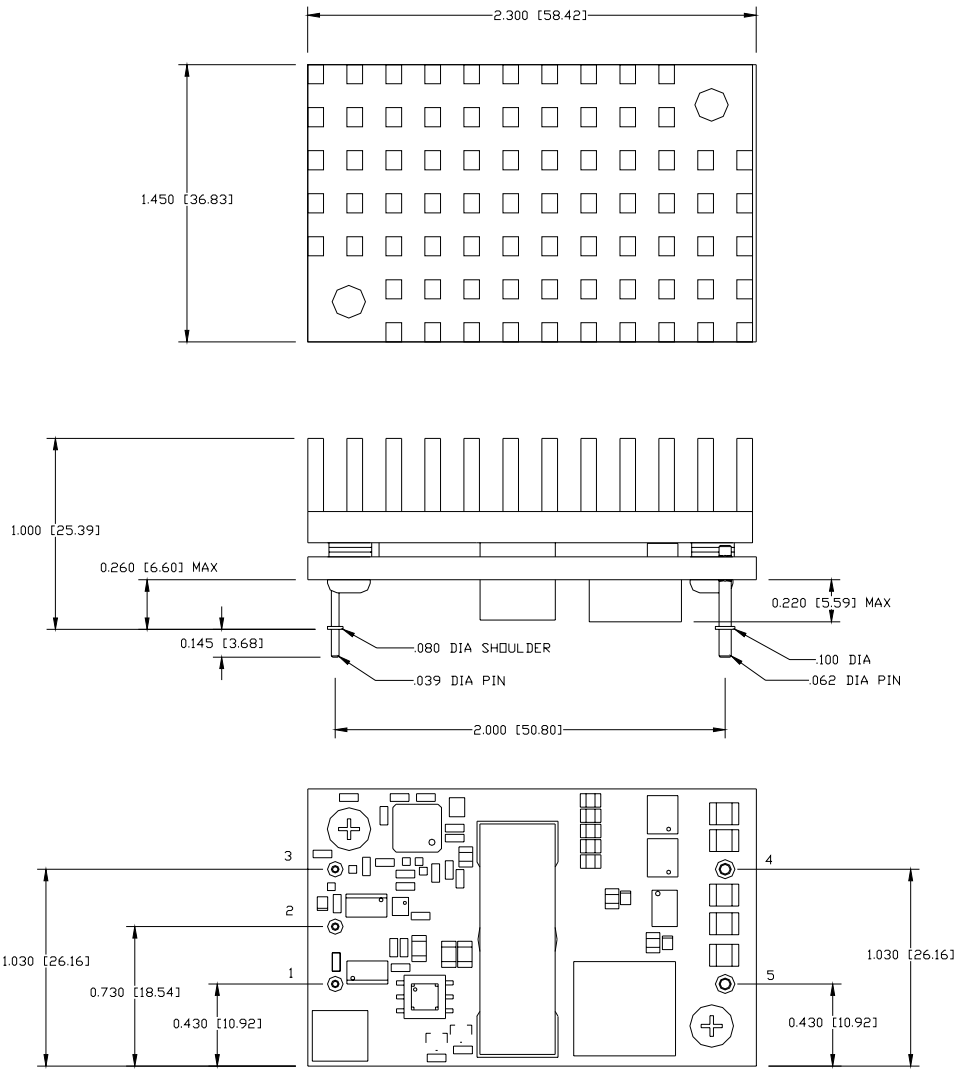
Mechanical Drawing



Pin Connections

Pin	Function
1	+ Vin
2	Remote On/Off
3	- Vin
4	- Vout
5	+ Vout

RoHS Compliance

These devices contain lead, as part of the solder and solder plating alloys, and thus can be considered RoHS compliant if used in server or telecommunications infrastructure equipment applications (RoHS 5).

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