

Bus Converter

48V Input / 9.3V Output / 36.5A



07CM-38S10L

PRELIMINARY

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



Description

The 07CM-38S "Cimarron" Series are isolated DC/DC converters that operate from a nominal 48V source. These converters are intended to provide isolation and step down to generate an intermediate bus for the purpose of powering non-isolated Point-of-Load (POL) converters. These units will provide up to 300W of output power from a 54V input. These units are designed to be highly efficient and very low cost and are thus unregulated. The downstream POL converters will provide the precise regulation required by the load. Features include remote on/off, over current protection and undervoltage 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
9.3V	48V	36.5A	300W	95%	07CM-38S10L

Input Specifications

Parameter	Min	Typ	Max	Notes
Input Voltage Range	36 VDC		55 VDC	
Input Current (no load)			110mA	
Input Current (full load)			7.2A	
Reflected Ripple Current (pk-pk)			50mA rms 100mA pk-pk	with a 12uH source inductor at nom. Vin and full load.
Undervoltage Lockout				
Turn-on		35.8 VDC		
Turn off		33.8 VDC		
Overvoltage Lockout		57.1 VDC		

Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage				Setpoint at no load.
36Vin		7.0V		
48Vin		9.3V		
55Vin		10.6V		
Output Current	0A		36.5A	
Output Power			300W	
Load Regulation			0.55V	
Ripple and Noise			150mV pk-pk	0 to 20MHz Bandwidth Use 1.0uF ceramic cap and 100uF/50mOhm tantalum on output
Load Capacitance	100uF (50mohm)		3000uF	

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Output Specifications (continued)

Parameter	Min	Typ	Max	Notes
Transient Response Max deviation Recovery to within $\pm 1\%$		150mV 50 μ S	250mV 100 μ S	$di/dt = 0.1A/\mu S$, $V_{in} = 48VDC$ $T_a = 25^\circ C$, 25% load change.

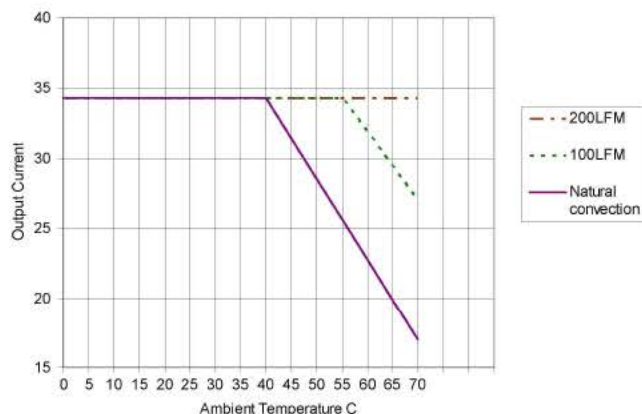
General Specifications

Parameter	Specification
Switching Frequency	96kHz typical (fixed)
Dimensions	
inches	2.28 x 1.45 x 1.00
mm	57.9 x 36.8 x 25.4
Weight	56g (2.0oz)
Operating Temperature	-40°C to 85°C
Non-Operating Temperature	-55°C to 125°C
Overtemp Shutdown	120°C (10°C hysteresis) Note: measured on Q4
Protection Features	
Short circuit	Latching
Over current	110% to 125% max I_o
Undervoltage	UVLO $V_{in} < 35.0$
Overvoltage	OVSD $V_{in} > 57.0$
Remote On/Off	
Active Low	Low: 0V to 0.4V
(Optional Active High)	High: 1.0 V to 18V
Turn on delay	2.7ms (typ.)
Output voltage rise time	4.3ms (typ.)
Safety Agency Approvals (pending)	UL / cUL Recognized Certified to EN60950

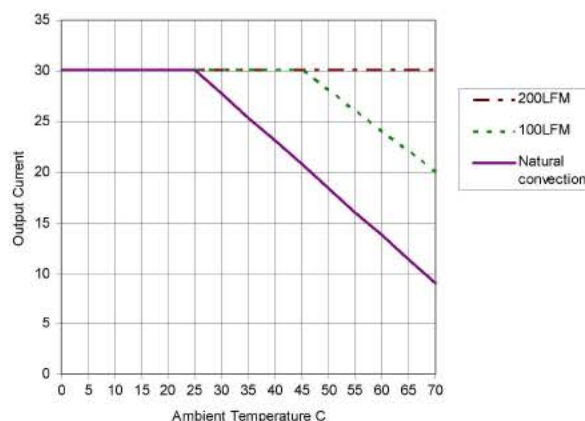
Pin Connections

Pin	Function
1	+ V_{in}
2	Remote On/Off
3	- V_{in}
4	- V_{out}
5	+ V_{out}

Derating @ 38VDC Input



Derating @ 54VDC Input



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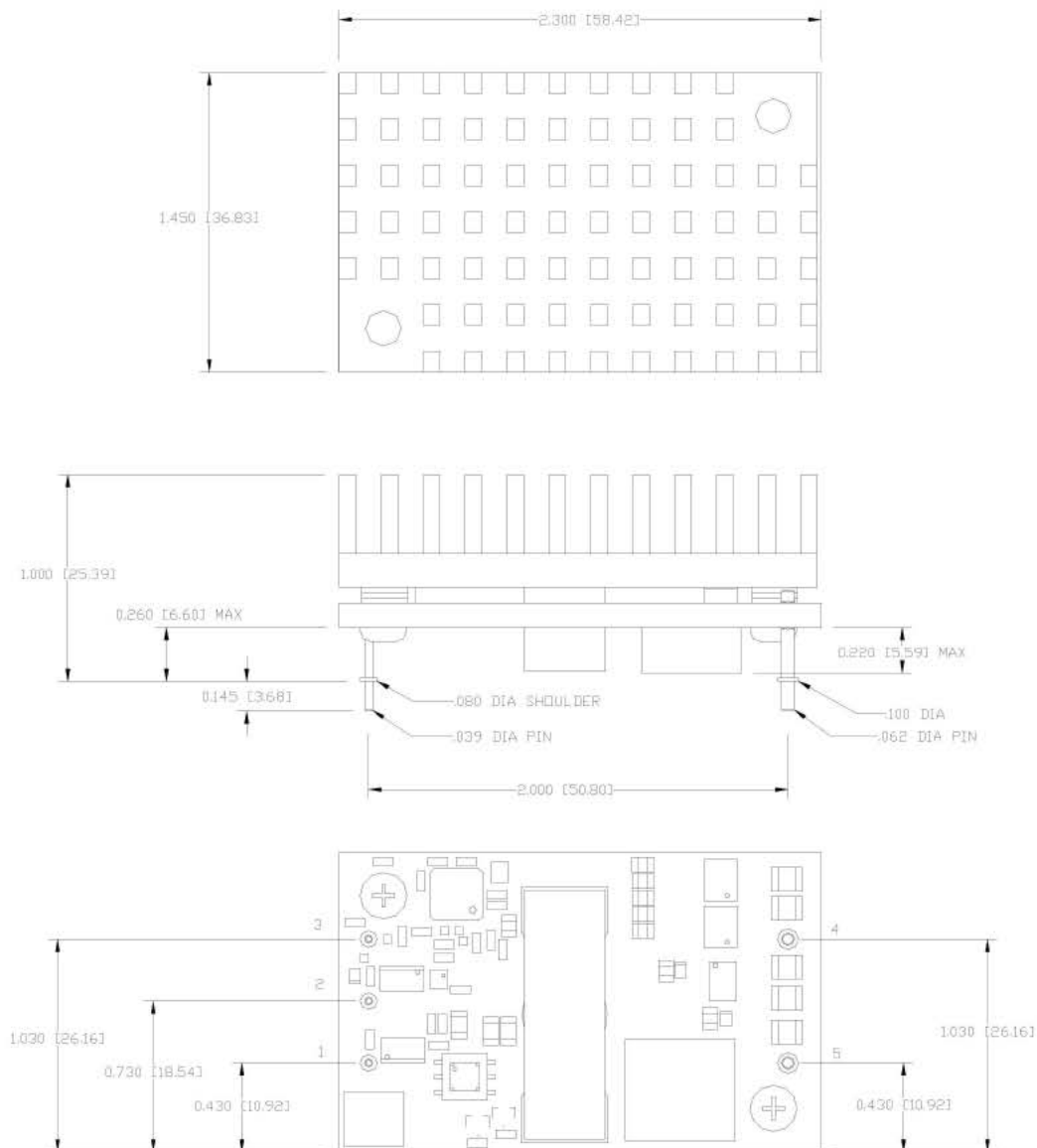
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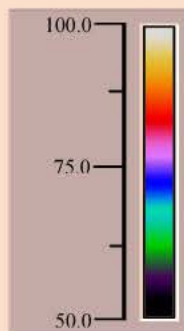
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POWER PRODUCTS

Top Side of Unit
w/o Heatsink

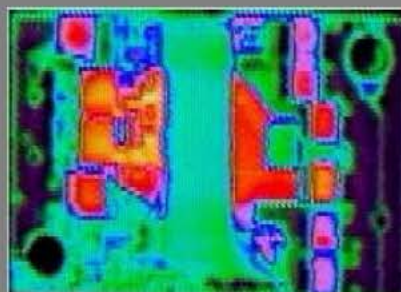
Vin: 39VDC
Iout: 33.2A
Pout: 240W
Tamb: 22°C
Airflow: 200LFM

* > 100.0°C



* < 40.0°C

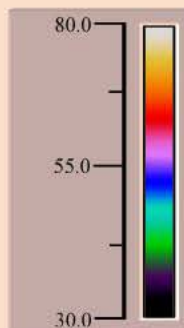
Air Flow



Bottom Side of Unit

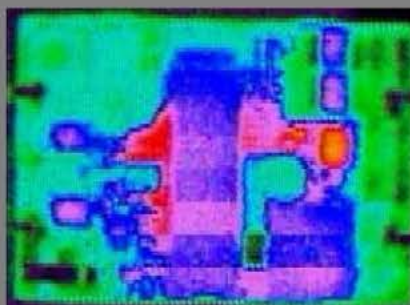
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Top Side of Unit
w/ 0.5" heatsink

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