

Bus Converter

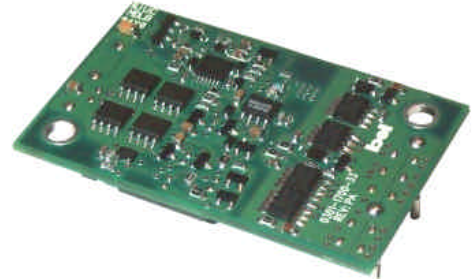
48V Input / 12V Output / 20A



07CM-20S/30S Series

PRELIMINARY

- Ideal for Intermediate Bus Architectures
- Industry standard quarter-brick package
- Up to 240W at 96% efficiency
- 1500V isolation
- Remote on/off
- Low cost
- Safety Agency Approvals



Description

The 07CM-20S “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 240W of output power from a nominal 48V 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
12V	48V	20A	240W	96%	07CM-20S12L
8V	48V	30A	240W	96%	07CM-30S08L

Change last character in part number from “0” to “H” for Active High On/Off Logic (e.g. 07CM-20S12H)

Input Specifications

Parameter	Min	Typ	Max	Notes
Input Voltage Range	36 VDC		55 VDC	
Input Current (no load)			80mA	
Input Current (full load)			5.3A	
Reflected Ripple Current (pk-pk)			50mA rms 100mA pk-pk	Reflected ripple current through a 12uH source inductor at nominal input voltage and rated load current.

Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage	<u>36V in</u> 8.8V 5.8V	<u>48V in</u> 12.0V 8.0V	<u>55Vin</u> 14.0V 9.4V	Setpoint at no load.
Output Current	0A 0A		20A 30A	
Load Regulation			5%	
Ripple and Noise			100mV pk-pk 45mV rms	0 to 20MHz Bandwidth Use 1.0uF ceramic cap and 15uF/100mOhm tantalum on output

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Output Specifications (continued)

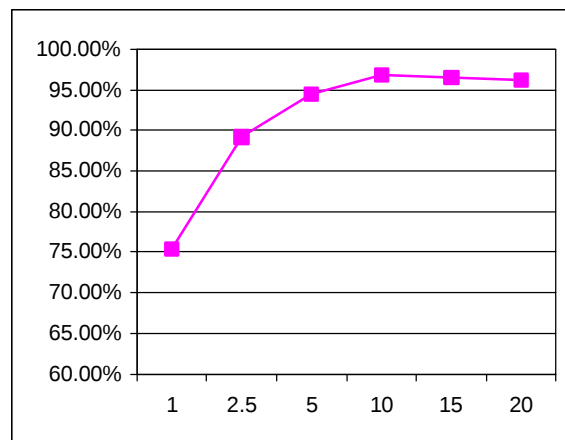
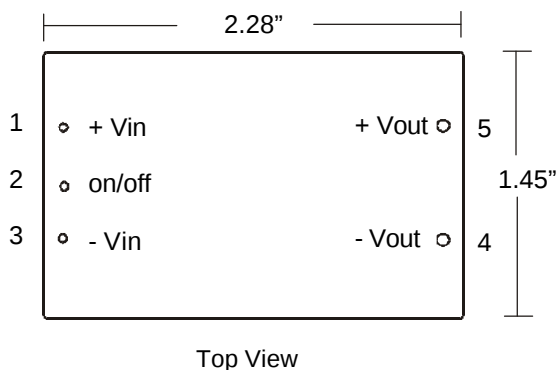
Parameter	Min	Typ	Max	Notes
Transient Response Max deviation Recovery to within $\pm 1\%$		200mV 50uS	350mV 100uS	di/dt = 0.1A/uS, Vin = 48VDC Ta = 25°C, 25% load change.

General Specifications

Parameter	Specification
Switching Frequency	120kHz typical (fixed)
Dimensions	
inches	2.28 x 1.45 x 0.50
mm	57.9 x 36.8 x 12.7
Weight	42g (1.5oz)
Operating Temperature	0°C to 70°C
Non-Operating Temperature	-55°C to 125°C
MTBF (MIL-HDBK-217K)	>1,000,000 hours
Protection Features	
Short circuit Over current Undervoltage	Continuous 120% to 140% max Io UVLO Vin < 39.0
Remote On/Off	
Active Low (Optional Active High)	Low: 0V to 0.8V High: 2.4V to 18V
Safety Agency Approvals (pending)	UL / cUL Recognized Certified to EN60950

Pin Connections

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



Efficiency vs. Output Current (A)

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