

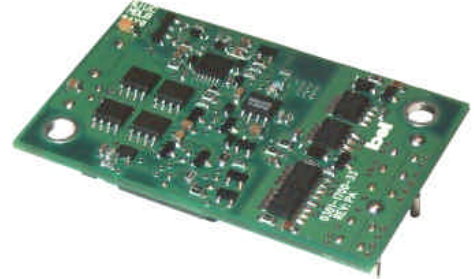
Bus Converter

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)

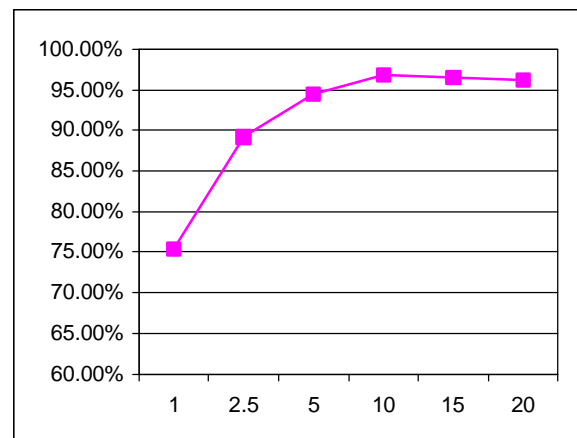
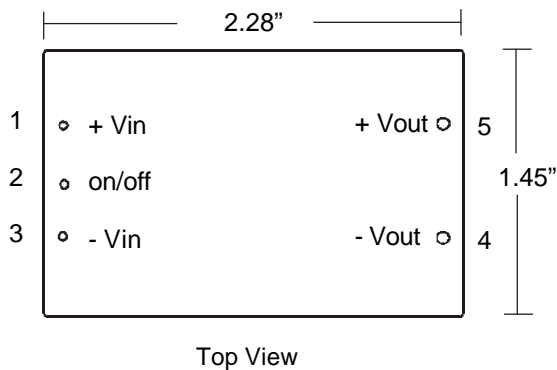
| Parameter | Min | Typ | Max | Notes |
|-------------------------|-----|-------|-------|------------------------------|
| Transient Response | | | | di/dt = 0.1A/uS, Vin = 48VDC |
| Max deviation | | 200mV | 350mV | Ta = 25°C, 25% load change. |
| Recovery to within ± 1% | | 50uS | 100uS | |

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 | Continuous |
| Over current | 120% to 140% max Io |
| Undervoltage | UVLO Vin < 39.0 |
| Remote On/Off | |
| Active Low | Low: 0V to 0.8V |
| (Optional Active High) | 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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