

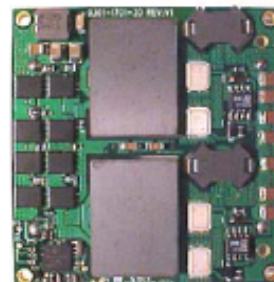
## ISOLATED DC/DC CONVERTERS

48 VDC Input 9.4 VDC/70 A Output, 1/2 Brick

**bel**  
POWER PRODUCTS

**0RCN-70S10L    RoHS Compliant    Rev.A**

- Industry standard half-brick package
- Up to 500 W at 96.5% efficiency
- 1500 V isolation
- Safety Agency Approvals



### Description

The 0RCN-70S “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 500 W of output power from a nominal 48 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
9.4 Vdc	48 Vdc	70 A	500 W	96.5%	0RCN-70S10L

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

### Input Specifications

Parameter	Min	Typ	Max	Notes
Input Voltage Range	36 V	-	55 V	
Input Current (no load)	-	-	165 mA	
Input Current (full load)	-	-	15 A	
Reflected Ripple Current (rms)	-	-	5 mA	with a 12uH source inductor at nom. Vin and full load.
Reflected Ripple Current (pk-pk)	-	-	15 mA	
Under-voltage Lockout	Turn-on	-	35 V	-
	Turn off	-	33 V	-
Over-voltage Lockout	-	57.5 V	-	

## ISOLATED DC/DC CONVERTERS

48 VDC Input 9.4 VDC/70 A Output, 1/2 Brick



### Output Specifications

Parameter	Min	Typ	Max	Notes
Output Voltage 36V <sub>in</sub> 48V <sub>in</sub> 55V <sub>in</sub>	- - -	7.1 V 9.4 V 10.8 V	- - -	Setpoint at no load.
Output Current	0 A	-	70 A	
Output Power	-	-	500 W	
Load Regulation		0.25 V	-	
Ripple and Noise (pk-pk)	-	-	160 mV	0 to 20MHz Bandwidth, Use 4*1uF ceramic caps and 2*15uF tantalum capacitor on output
Load Capacitance	0 uF	-	3000 uF	
Transient Response Max deviation Recovery to within ± 1%	- -	150 mV 150 uS	200 mV 200 uS	di/dt = 0.1 A/uS, V <sub>in</sub> = 48 V T <sub>a</sub> = 25 °C, 25% load change.

### General Specifications

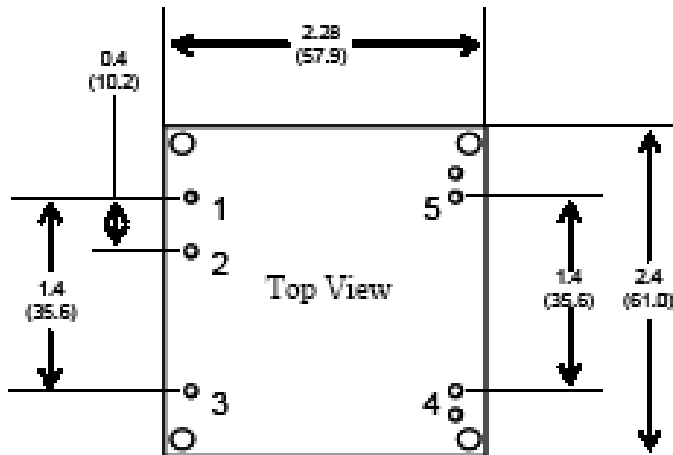
Parameter	Min	Typ	Max	Notes
Switching Frequency	-	100 kHz	-	fixed
Weight	-	TBD	-	
Operating Temperature	-40 °C	-	85 °C	
Non-Operating Temperature	-55 °C	-	125 °C	
Overtemp Shutdown	-	135 °C	-	10 °C hysteresis measured on Q9
Dimensions Inches (L × W × H) Millimeters (L × W × H)		2.28 x 2.4 x 0.41 57.9 x 61.0 x 10.4		
Protection Features Short circuit Over current Undervoltage Overvoltage		Latching 110% to 125% max I <sub>o</sub> UVLO V <sub>in</sub> < 35.0 OVSD V <sub>in</sub> > 57.0		
Remote On/Off Active Low (Optional Active High) Turn on delay Output voltage rise time	0 V 1.0 V - -	- - 3 ms 6.5 ms	0.6 V 18 V - -	
Safety Agency Approvals (pending)	UL / cUL Recognized Certified to EN60950			

## ISOLATED DC/DC CONVERTERS

48 VDC Input 9.4 VDC/70 A Output, 1/2 Brick

**bel**  
POWER PRODUCTS

### Mechanical Drawing



### Pin Connections

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

### RoHS Compliance

Complies with the European Directive 2002/95/EC, calling for the elimination of lead and other hazardous substances from electronic products.



©2008 Bel Fuse Inc. Specifications subject to change without notice. 110308

#### CORPORATE

**Bel Fuse Inc.**  
206 Van Vorst Street  
Jersey City, NJ 07302  
Tel 201-432-0463  
Fax 201-432-9542  
[www.belfuse.com](http://www.belfuse.com)

#### FAR EAST

**Bel Fuse Ltd.**  
8F/ 8 Luk Hop Street  
San Po Kong  
Kowloon, Hong Kong  
Tel 852-2328-5515  
Fax 852-2352-3706  
[www.belfuse.com](http://www.belfuse.com)

#### EUROPE

**Bel Fuse Europe Ltd.**  
Preston Technology Management Centre  
Marsh Lane, Suite G7, Preston  
Lancashire, PR1 8UD, U.K.  
Tel 44-1772-556601  
Fax 44-1772-888366  
[www.belfuse.com](http://www.belfuse.com)