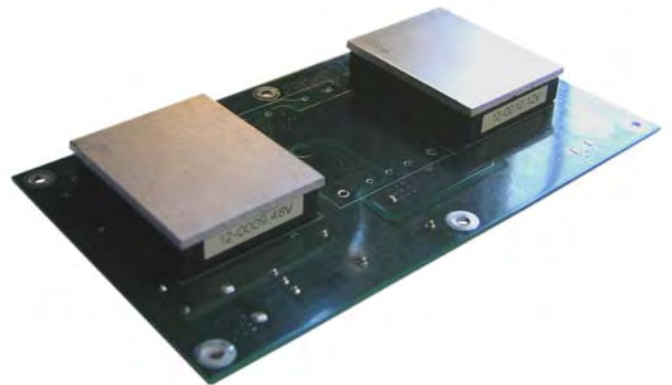




Lato componenti passivi  
Passive components side



Lato dei due dc-dc converter  
Dc-dc converters side

Piastra doppio alimentatore ex ponte radio con due dc-dc converter VICOR, made in USA, del valore di circa 50,00 € ognuno.

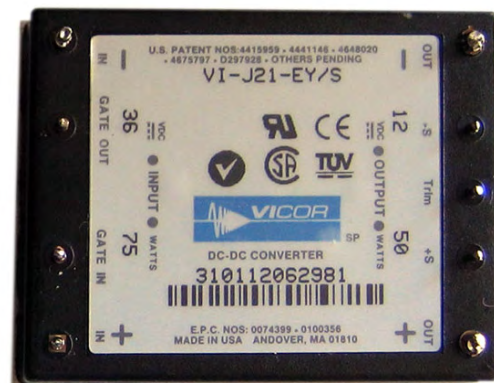
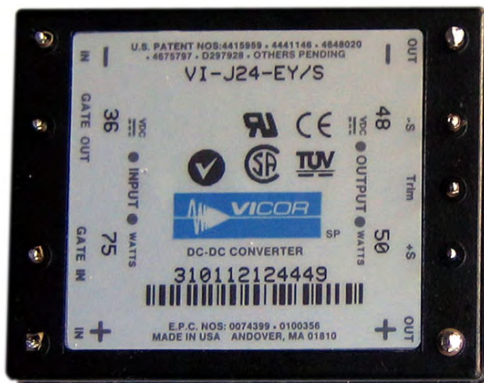
Double power supply pc board saved from radio link with two VICOR dc-dc converters, made in USA, they worth about 50,00 € each.

Modello: VI-J21-EY/S  
Tensione d'ingresso: 36V nominale (21-56V max.)  
Tensione d'uscita: 12V  
Potenza: 50W  
(Vedere pagine seguenti per datasheet dettagliato)

Model: VI-J21-EY/S  
Input voltage: 36V nominal rating (21-56V max.)  
Output voltage: 12V  
Power: 50W  
(see next pages for detailed datasheet)

Modello: VI-J24-EY/S  
Tensione d'ingresso: 36V nominale (21-56V max.)  
Tensione d'uscita: 48V  
Potenza: 50W  
(Vedere pagine seguenti per datasheet dettagliato)

Model: VI-J24-EY/S  
Input voltage: 36V nominal rating (21-56V max.)  
Tensione d'uscita: 48V  
Power: 50W  
(see next pages for detailed datasheet)



Ecco come si presentano i due dc-dc converter dopo essere stati dissaldati dal circuito stampato.

Here how the dc-dc converters look like look after being unsoldered from the pc board.

La parte retrostante in alluminio, durante il funzionamento normale, deve essere messa a contatto di un adeguato dissipatore.

The aluminium back side, during the normal operation, has to be placed in contact with an adequate heat sink.



# Data Sheet

## VI-J00, VE-J00



### Features

- RoHS compliant (VE versions)
- Up to 50 Watts per cubic inch
- cULus, cTUVus
- CE Marked
- Up to 90% efficiency
- Size: 2.28" x 2.4" x 0.5" (57,9 x 61,0 x 12,7)
- Remote sense and current limit
- Logic disable
- Wide range output adjust
- ZCS power architecture
- Low noise FM control
- Isolated output

## Half Brick DC-DC Converters

### 25 to 100 Watts

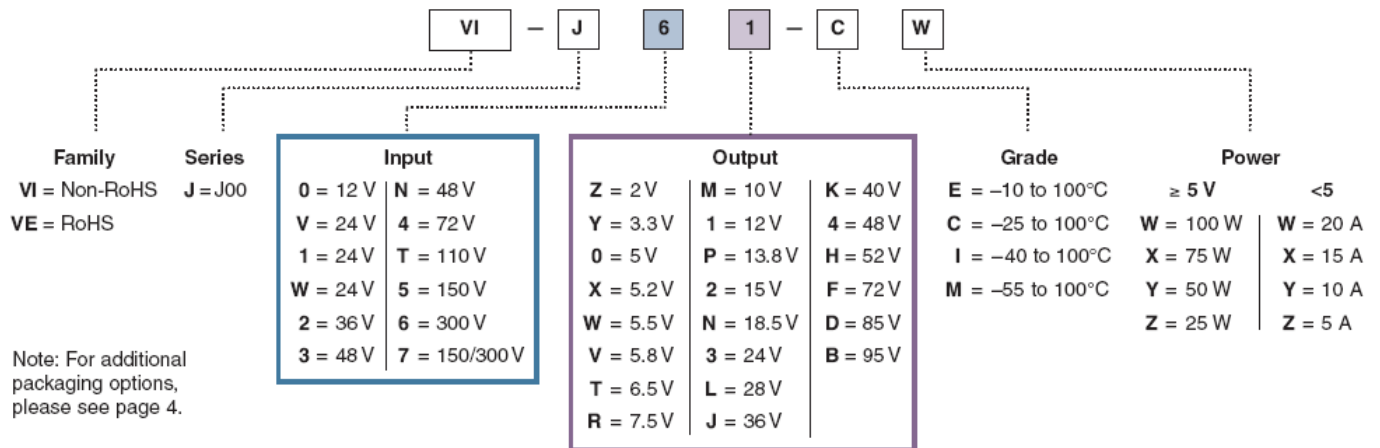
### Product Highlights

The VI-J00 MiniMod family established a new standard in component-level DC-DC converters. This "junior" size complement to the higher power VI-200 family offers up to 100 W of isolated and regulated power in a board mounted package. With thousands of input/output/power combinations, and with a maximum operating temperature rating of 100°C, the MiniMod provides nearly unlimited flexibility for power system designers to meet demanding time to market requirements.

Utilizing Vicor's "zero-current-switching" forward converter technology, proven by an installed base of over 8 million units, the MiniMod family combines state of the art power density with the efficiency, low noise and reliability required by next generation power systems.



### Part Numbering



### Maximum Power Available for VI-Jxx-xx

Input			Vin Designators	Output																					
Voltage Nom. (Range)	Low Line 75% Max Power	Transient <sup>[a]</sup>		Vout Designators																					
				2	3.3	5	5.2	5.5	5.8	6.5	7.5	10	12	13.8	15	18.5	24	28	36	40	48	52	72	85	95
				Z	Y	0	X	W	V	T	R	M	1	P	2	N	3	L	J	K	4	H	F	D	B
12 (10-20)	n/a	22	0	X	X	Y	Y	Y	Y	Y	Y	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24 (10-36)	n/a	n/a	V	--	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	--	--	--	--
24 (21-32)	18	36	1	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
24 (18-36)	n/a	n/a	W	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
36 (21-56)	18	60	2	Y	Y	Y	Y	Y	Y	Y	Y	X	X	X	X	X	X	X	X	X	X	X	--	--	--
48 (42-60)	36	72	3	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
48 (36-76)	n/a	n/a	N	W	W	X	X	X	X	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
72 (55-100)	45	110	4	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
110 (66-160)	n/a	n/a	T	W	W	X	X	X	X	X	X	W	W	W	W	W	W	W	W	W	W	W	W	--	--
150 (100-200)	85	215	5	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W
150 (100-375)	n/a	n/a	7	Y	Y	Y	Y	Y	Y	Y	Y	X	X	X	X	X	X	X	X	X	X	X	X	--	--
300 (200-400)	170	425	6	W	W	W	W	W	W	X	X	W	W	W	W	W	W	W	W	W	W	W	W	W	W

[a] Transient voltage for 1 second.

**CONVERTER SPECIFICATIONS**

(typical at T<sub>BP</sub> = 25°C, nominal line and 75% load, unless otherwise specified)

**INPUT SPECIFICATIONS**

Parameter	VI-J00 E-Grade			VI-J00 C-, I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Inrush charge		60 x 10 <sup>-6</sup>		60 x 10 <sup>-6</sup>	100 x 10 <sup>-6</sup>		Coulombs	Nominal line
Input reflected ripple current – pp		10%		10%			I <sub>IN</sub>	Nominal line, full load
Input ripple rejection	$25 + 20 \text{Log} \left( \frac{V_{in}}{V_{out}} \right)$			$30 + 20 \text{Log} \left( \frac{V_{in}}{V_{out}} \right)$			dB	120 Hz, nominal line
				$20 + 20 \text{Log} \left( \frac{V_{in}}{V_{out}} \right)$			dB	2400 Hz, nominal line
No load power dissipation		1.35	2	1.35	2		Watts	

**OUTPUT CHARACTERISTICS**

Parameter	VI-J00 E-Grade			VI-J00 C-, I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Setpoint accuracy		1%	2%	0.5%	1%		V <sub>NOM</sub>	
Load/line regulation	0.5%			0.05%	0.2%		V <sub>NOM</sub>	LL to HL, 10% to Full Load
	1%			0.2%	0.5%		V <sub>NOM</sub>	LL to HL, No Load to 10%
Output temperature drift		0.02		0.01	0.02		% / °C	Over rated temperature
Long term drift		0.02		0.02			%/1K hours	
Output ripple – pp:								
2 V, 3.3 V			200	100	150		mV	20 MHz bandwidth
5 V			5%	2%	3%		V <sub>NOM</sub>	20 MHz bandwidth
10 – 95 V			3%	0.75%	1.5%		V <sub>NOM</sub>	20 MHz bandwidth
Trim range <sup>[a]</sup>	50%		110%	50%	110%		V <sub>NOM</sub>	
Total remote sense compensation	0.5			0.5			Volts	0.25 V max. neg. leg
Current limit	105%		135%	105%	125%		I <sub>NOM</sub>	Automatic restart
Short circuit current	105%		140%	105%	130%		I <sub>NOM</sub>	

[a] 10 V, 12 V, 13.8 V, 15 V outputs, or “V” input range have standard trim range ±10%. Consult factory for wider trim range.  
95 V output –50 + 0% trim range.

**CONTROL PIN SPECIFICATIONS**

Parameter	VI-J00 E-Grade			VI-J00 C-, I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Gate out impedance		50		50			Ohms	
Gate in impedance		1000		1000			Ohms	
Gate in high threshold		6				6	Volts	Use open collector
Gate in low threshold	0.65			0.65			Volts	
Gate in low current			6			6	mA	

**CONVERTER SPECIFICATIONS**(typical at  $T_{BP} = 25^{\circ}\text{C}$ , nominal line and 75% load, unless otherwise specified)**■DIELECTRIC WITHSTAND CHARACTERISTICS**

Parameter	VI-J00 E-Grade			VI-J00 C-, I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Input to output	3,000			3,000			V <sub>RMS</sub>	Baseplate earthed
Output to baseplate	500			500			V <sub>RMS</sub>	
Input to baseplate	1,500			1,500			V <sub>RMS</sub>	

**■THERMAL CHARACTERISTICS**

Parameter	VI-J00 E-Grade			VI-J00 C-, I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Efficiency		78 – 88%			80 – 90%			
Baseplate to sink		0.14			0.14		$^{\circ}\text{C}/\text{Watt}$	With Vicor P/N 20267

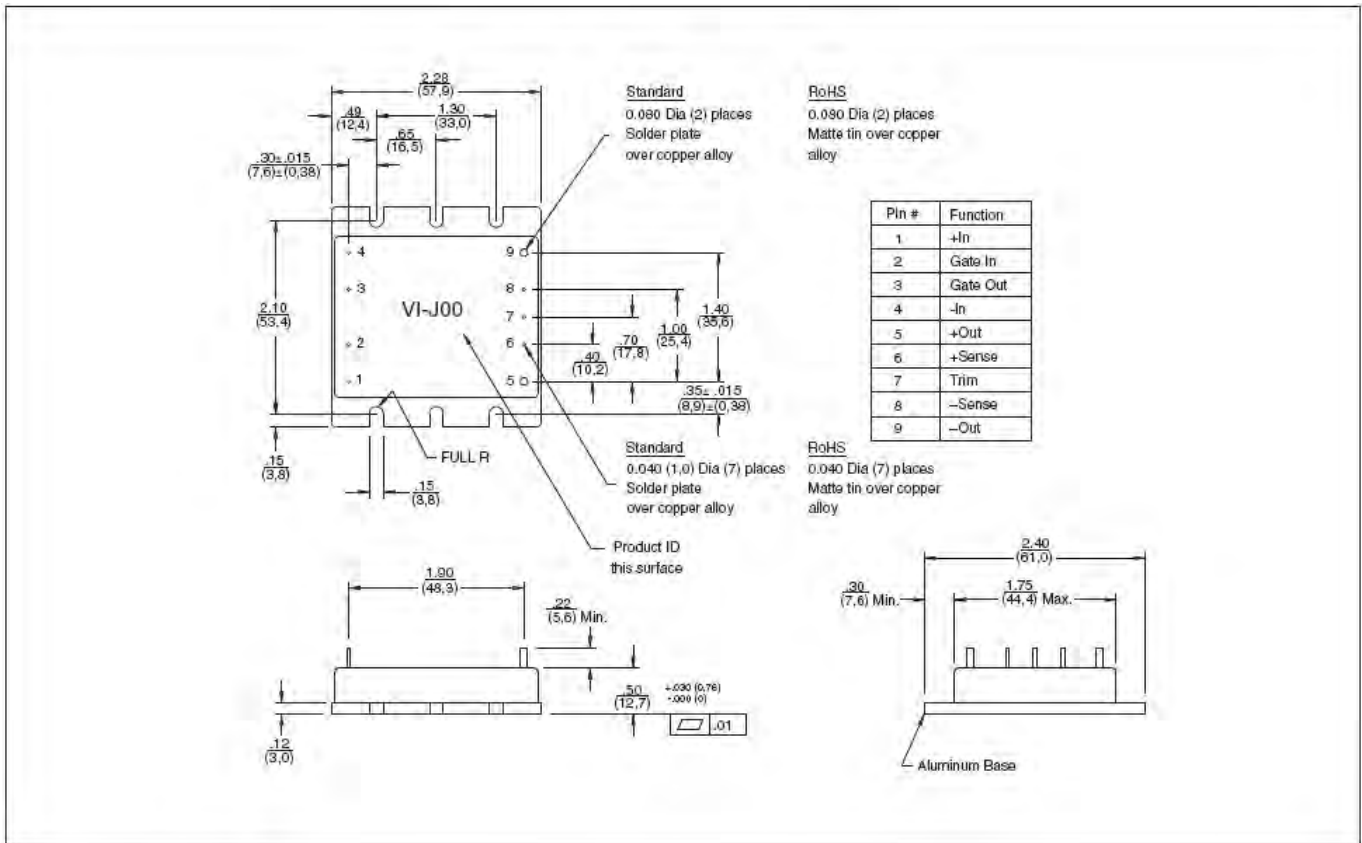
**■MECHANICAL SPECIFICATIONS**

Parameter	VI-J00 E-, C-Grade			VI-J00 I-, M-Grade			Units	Test Conditions
	Min	Typ	Max	Min	Typ	Max		
Weight	2.9	3.2	3.6	3.4	3.8	4.1	Ounces	
	82.8	92	101.2	96.3	107	117.7	Grams	

**■PRODUCT GRADE TEMPERATURES**

Parameter	Storage	Operating	Units	Notes
E	-20 to +105	-10 to + 100	$^{\circ}\text{C}$	
C	-40 to +105	-25 to + 100	$^{\circ}\text{C}$	
I	-55 to +105	-40 to + 100	$^{\circ}\text{C}$	
M	-65 to +105	-55 to + 100	$^{\circ}\text{C}$	

**MECHANICAL DRAWING**



**PACKAGING OPTIONS**

**Flangeless package**



2.28"L x 1.80"W x 0.50"H  
(57,9 x 45,7 x 12,7 mm)

To order the SlimMod configuration add the suffix "-S" to the standard module part number.

Qty (2) grounding clips are included with each SlimMod P/N 32187

**Flangeless package with integral heat sink**



Longitudinal, 0.25" fins — add suffix "-F1"  
Longitudinal, 0.50" fins — add suffix "-F2"



Transverse, 0.25" fins — add suffix "-F3"  
Transverse, 0.50" fins — add suffix "-F4"

Available with longitudinal or transverse fins of 0.25" or 0.50" height. Add the appropriate suffix to the module part number.

Qty (4) grounding clips are included with each FinMod F1, F2 P/N 32185  
F3, F4 P/N 32186

**MegaMod Jr.**

Chassis mount alternatives, one, two, or three outputs: up to 300 W



1 up - 2.58" x 2.5" x 0.62" (65,5 x 63,5 x 15,7 mm)  
2 up - 2.58" x 4.9" x 0.62" (65,5 x 124,5 x 15,7 mm)  
3 up - 2.58" x 7.3" x 0.62" (65,5 x 185,4 x 15,7 mm)

**BusMod**



2.28"L x 2.40"W x 1.08"H  
(57,9 x 61,0 x 27,4 mm)

To order the BusMod fully assembled, add suffix "-B1" to the standard module part number.

To order the BusMod separately:  
Half-sized BusMod — P/N 18952