

File E100527  
Project 91EK524

Issued: May 24, 1989

REPORT

on

COMPONENT - POWER SUPPLIES

Vicor Corp.  
Andover, MA

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## DESCRIPTION

PRODUCT COVERED:

Component Power Supply, Flat Pac Series, Model Nos. VI-abccc-deeee-xx. The power supplies are for use with data processing equipment, and office appliances and business equipment. VI may be replaced by IP for all Models. Refer to Ill. 14.

GENERAL CHARACTER AND USE:

The Flat Pac Series is built using up to three Recognized (QQBK2) Vicor dc-dc output voltages of the modules which provide primary to secondary isolation. It can be configured by selecting the desired output voltages of the modules and paralleling of similar outputs to provide the output configuration described in the nomenclature section of this report (up to three outputs). Units with the same number of modules share the same front end primary circuitry. They are intended to be factory wired within electronic data processing equipment.

\* The power supplies were investigated for compliance with the Standard for Information Technology Equipment Including Electrical Business Equipment, **UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements)** CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (**Information Technology Equipment - Safety - Part 1: General Requirements**). Based on the March 15, 1991 Industry Review and per the manufacturer's request, this section of this report was transferred to the category for Power Supplies For Use In Electronic Data Processing Equipment, and Power Supplies For Use In Information Technology Equipment, including Electrical Business Equipment.

NOMENCLATURE BREAKDOWN:

Refer to Ill. 14.

ELECTRICAL RATINGS:

Refer to Ill. 14.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

For use only in or with electronic data processing equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - When installed in the end-use equipment, the following are among the considerations to be made.

\*1. These components have been judged on the basis of the required spacings in **UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements)** CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (**Information Technology Equipment - Safety - Part 1: General Requirements**) which covers the end-use product for which the component was designed.

2. The power supply should be installed in compliance with the enclosure, mounting, spacings, temperature, casualty, and segregation requirements of the ultimate application.

3. The baseplate temperature should be measured in the end-use, and should not exceed 85°C.
4. The component power supply may be used in still air at 25°C if the output is derated; and the baseplate is maintained at or less than 85°C.
5. Secondary circuits have not been investigated for secondary interconnection or user accessibility.
6. The input and output terminals are not acceptable for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these and the mating connectors relative to secureness, insulating materials, and temperature should be considered.
7. The "Gate In" and "Gate Out" terminals are in low voltage primary connected circuits.
8. Based on Paragraph 35A.1 of the Standard for Telephone Equipment, UL 1459; these products are acceptable for use with telephone equipment.
9. These units have an earth leakage current which exceeds 3.5 mA at high frequency inputs.

For units which operate at input frequencies higher than 63 Hz the end-product must be provided with industrial type sockets or plugs and the cross-sectional area of the internal protective earthing conductor may not be less than 1.0 mm<sup>2</sup>, or the end-product must be additionally evaluated to determine acceptability with respect to leakage current requirements of UL 1950.

10. If the end-product input frequency exceeds 63 Hz, the following marking must be provided:

"WARNING - HIGH LEAKAGE CURRENT - EARTH CONNECTON ESSENTIAL BEFORE  
CONNECTING SUPPLY."

\*

**Company:** Vicor Corporation, 25 Frontage Road Andover, MA 01810 USA

## VI - abccc - deee – xx FlatPAC Family Tree

### VI Product Type

VI = VI (Vicor), VI = VE (Vicor RoHs), VI = IP (VJCL), VI = IE (VJCL RoHs)

### a Module Configurations Input Current (Max)

L = 1 module, 1 output 5.0 / 2.5 A  
 M = Up to 2 modules, 1 output 9.5 / 6.0 A  
 N = Up to 3 modules, 1 output 13.5 / 8.0 A  
 P = Up to 2 modules, 2 outputs 9.5 / 6.0 A  
 Q = Up to 3 modules, 2 outputs 13.5 / 8.0 A  
 R = Up to 3 modules, 3 outputs 13.5 / 8.0 A

### b Input Type

F = Strappable  
 A = AutoRanging  
 U = Universal

### d Product Grade

C = Commercial -20C to 85C  
 I = Industrial -40C to 85C  
 M = Military -55C to 85C  
 E = Economy 0C to 85C

### Input Voltage

100-120 / 200-240 V, 47-63 Hz  
 100-120 / 200-240 V, 47-440 Hz  
 100-120 / 200-240 V, 47-440 Hz  
 100-120 / 200-240 V, 47-63 Hz

### eee Output Power

Vout ≥ 5V	Vout ≤ 5V
M = 600W	120A
P = 450W	90A
Q = 400W	80A
S = 300W	60A
U = 200W	40A
V = 150W	30A
W = 100W	20A
X = 75W	15A
Y = 50W	10A
Z = 25W	5A

### ccc Output voltage (Vdc) Nominal

Z = 2.0	2 = 15.0
Y = 3.3	N = 18.5
O = 5.0	3 = 24.0
X = 5.2	L = 28.0
W = 5.5	J = 36.0
V = 5.8	K = 40.0
T = 6.5	4 = 48.0
R = 7.5	H = 52.0
M = 10.0	F = 72.0
1 = 12.0	D = 85.0
P = 13.8	B = 95.0

### xx Customer Options / Specials (items d and eee become optional)

BC = BatMOD/Conduction Cooled

BM = BatMOD

CC = Conduction Cooled

LL = Low Leakage version

xx = 00-99, denotes unique customer labels, testing, or non-safety related component changes, d and eee are optional

x may be replaced by -xxx or -xxx to denote 0-999 for non-safety related component changes

**Example:** VI-PU01-CUX-234

P = Up to 2 modules, 2 outputs, U = Universal, 0 = 5Vdc, 1 = 12Vdc, C= Commercial product Grade, U = Output 1@ 200W, X = Output 2 @ 75W, 234 = Customer Label