



America

CERTIFICATE

No. U8V 11 10 21433 293

Holder of Certificate: Vicor Corporation

25 Frontage Road
Andover, MA 01810
USA

Production Facility(ies):

67768

Certification Mark:



Product:

Power supply
DC-DC Converter

Model(s):

High Current VTM
Model VIV0005TFJ
(see attachment for additional model information)

Parameters:

Rated Input Voltage: 40 V DC (26-55)
Rated Out Voltage: 1.0 V DC
Rated Output Current: 150 A Max
Protection Class: III
Degree of Protection: IPX0
(see certificate attachment for additional ratings and license conditions)

Tested according to:

CAN/CSA C22.2 No. 60950-1:2007
UL 60950-1:2007
EN 60950-1/A11:2009

The product was voluntarily tested according to the relevant safety requirements and mentioned properties. It can be marked with the certification mark shown above. The certification mark must not be altered in any way. This product certification system operated by TÜV SÜD America Inc. most closely resembles that described by ISO/IEC Guide 67, Conformity assessment - Fundamentals of product certification, System 3. See also notes overleaf.

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VI Chip High Current VTM series of DC-DC Converters Model: VIV00wwxFy

VI =	Constant, VI Chip
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V =	VTM (Voltage Transformation Module)
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00 =	Constant
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ww = defines electrical ratings			
Model	Vin Nom (range)	Vout (Nom)	Iout
05	40 (26-55)	1.0	130A / 150A*
07	48 (26-55)	1.5	115A / 130A*
* Special cooling required. See license conditions.			

x =	Product Grade	Temp Range
T	Telecom	-40 to 125 C

F =	Constant, Full VIC Package Size
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y =	Output Lead Designator
J	J-Lead
T	Through-Hole

Customer Special Model Numbers

Customer Special Model Numbers	Equivalent Standard Model Number
VIZ0026, VIZ0026x	VIV0005TFJ
VIZ0027, VIZ0027x	VIV0007TFJ
VIZ0037, VIB0037x	VIV0005TFJ
VIZ0038, VIZ0038x	VIV0007TFJ
VIZ0056, VIZ0056x	VIV0005TFJ
VIZ0057, VIZ0057x	VIV0007TFJ
VIZ0059, VIZ0059x	VIV0005TFJ
VIZ0060, VIZ0060x	VIV0007TFJ
VIZ0063, VIZ0063x	VIV0005TFJ
VIZ0064, VIZ0064x	VIV0007TFJ
x = revision, any letter A through Z, non-safety related	

Example part numbers:

VIV0005TFJ, VIV0007TFJ, VIZ0026, VIZ0027, VIZ0037, VIZ0038, VIZ0056, VIZ0057, VIZ0059, VIZ0060, VIZ0063, VIZ0064

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VI Chip High Current VTM2 Model number: VTMbbbccddefffxzz

Example: VTM48EF015T115A00

VTM = Constant

VTM Family (Voltage Transformation Module)	
VTM	Standard version
MVTM	Mil-COTS version

bbb = 48E

Input Voltage	Nominal (range)
48E	48 Vdc (26-55)

c = F

Package Size / Lead Designator	
F	Full VI Chip J-Lead
T	Full VI Chip Though-hole

ddd = 015

Output Voltage Designator			
010	1.0 Vdc	013	1.3 Vdc
011	1.1 Vdc	014	1.4 Vdc
012	1.2 Vdc	015	1.5 Vdc

e = T

Product Grade	
T	-40 to 125C
M	-55 to 125C

fff = 115

Output Current Designator	
115	115A / 130A*
130	130A / 150A*

* Special cooling required. See license conditions.

x = A

Revision (non-safety related)	
x	Any alphanumeric character

zz = 00

Customer reference (non-safety related)	
zz	Any alphanumeric character

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License Conditions:

Special Considerations – The following items are considerations that were used when evaluating these products.

The VI Chip High Current VTM family of DC-DC converters is designed for building-in.

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

1. **Input Voltage:** Both a nominal input voltage and an input voltage range are specified. Operation over the entire range was evaluated
2. **Max Temperature:** Keep the maximum semiconductor junction temperature of the VI Chip at $T_j = 125^\circ\text{C}$ or less. There are 3 methods to achieve this condition:

Method 1: Monitor Case Temp.

Keep $T_{\text{casemax}} \leq 100^\circ\text{C}$ or below. T_{casemax} is the maximum case temperature of the VI Chip

Method 2: Calculate

Keep T_{casemax} equal to or below:

$125^\circ\text{C} - (P_{\text{dissmax}} \times 1.5)$ for all conditions, where $P_{\text{dissmax}} = P_{\text{Input_max}} - P_{\text{Output_max}}$.

P_{dissmax} is the amount of power in Watts dissipated within the device. The thermal resistance of the VI Chip from the internal semiconductor junction to the case is 1.5°C/W

Method 3: Cold plate application (* Special cooling for 130A/150A applications)

Keep $T_{\text{casemax}} \leq 50^\circ\text{C}$ or below. T_{casemax} is the maximum case temperature of the VI Chip

3. The High Current VTM model numbers VIZ0026x, VIZ0027x, VIZ0056x, VIZ0057x, VIZ0063x, and VIZ0064x converters provide Functional Insulation from Input to Output. The output can be considered SELV if the input is SELV.
4. The High Current VTM model numbers VIZ0037x, VIZ0038x, VIZ0059x, VIZ0060x, VIV0005xFy, and VIV0007xFy converters provide Basic Insulation from Input to Output with 1500 Vdc of dielectric withstand.
5. All models provide Basic Insulation and 2250 Vdc of dielectric withstand from Input / Output to the Case.
6. **Fusing Requirements:** The High Current VTM series of DC-DC converters were evaluated with Littelfuse Nano² SMD fuse rated 10A / 125Vdc. The fuse may be replaced by an external current limiting circuit to be evaluated in the end product.
7. The VIZ0026x, VIZ0027x, VIZ0056x, VIZ0057x, VIZ0063x, and VIZ0064x, include a current limiting circuit on the interposer pcb, external to the VI Chip, and do not require external fusing.

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