CERTIFICATE OF COMPLIANCE

Certificate Number	20150803-E135493
Report Reference	E135493-A29-UL
Issue Date	2015-AUGUST-03
Issued to:	VICOR CORP 25 FRONTAGE RD ANDOVER MA 01810
This is to certify that representative samples of	COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIPMENT INCLUDING ELECTRICAL BUSINESS EQUIPMENT DC-DC Converter, model High Voltage VIA DCM Series Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	UL 60950-1 and CAN/CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	DC-DC Converter
Model:	High Voltage VIA DCM Series See Miscellaneous Enclosure for model details.
Rating:	Rated Input Voltage: 420 V DC Max. Rated Output Voltage: 53 V DC Max. Rated Output Power: 600 W Max. See Miscellaneous Enclosure for model details.
Applicant Name and Address:	VICOR CORP 25 FRONTAGE RD ANDOVER MA 01810-5424 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Jeff Smith Reviewed by: Mengis Tesfay

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.

ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.

iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The High Voltage VIA DCM Modules are regulated isolating DC-DC Converters that provide a SELV output. The VIA DCM operates over a wide input range and provides a maximum output rating of 600 W.

Model Differences

See Miscellaneous Enclosure for model nomenclature.

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : not directly connected to the mains
- Operating condition : continuous
- Access location : for building-in
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : 160 - 420 Vdc
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : N/A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 5000 meters
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 0.119
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: See de-rating curve.

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The following secondary output circuits are SELV: All
- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- The output is separated from the input by reinforced insulation.
- The output is considered SELV.
- See derating curve for maximum output power vs. case temperature. The de-rating curves represent the maximum operating conditions of the product family. Some model numbers may be rated less than the maximum operating conditions.
- The case must be connected to protective earth in the end application.
- The HV VIA DCM was evaluated with Bussmann PC-Tron series fuse rated 5A and a Littelfuse 487 series rated 8 A.
- The output has not been evaluated for energy hazards.

Additional Information

N/A

High Voltage VIA DCM Model Number Matrix: DCM3714cddewwxxyzz

Example: DCM3714VD2H26F0T01

DCM = Constant

Product Function	
DCM	DC-DC Converter Module

3714 = Constant

Package Designator	
3714	3.7 x 1.4 inches

c = V

Package Type	
V	Chassis mount
B	Board mount

dd = D2

Maximum Input Voltage = 1st character + 2nd character (see table below, not to exceed 420V)							
1st character		2nd character					
A	100V	0	0 V	4	40 V	8	80 V
B	200V	1	10 V	5	50 V	9	90 V
C	300V	2	20 V	6	60 V		
D	400V	3	30 V	7	70 V		
Examples: D2 = 420V (400V+20V), C0 = 300V (300V+0V), B9 = 290V (200V+90V), B7 = 270V (200V+70V)							

e = H

Range Ratio (Vin high / Vin low, defines low line)							
A	1.10	G	1.95	N	3.45	U	6.12
B	1.21	H	2.14	P	3.80	V	6.73
C	1.33	J	2.36	Q	4.18	W	7.40
D	1.46	K	2.59	R	4.60	X	8.14
E	1.61	L	2.85	S	5.05	Y	8.95
F	1.77	M	3.14	T	5.60	Z	9.85

ww = 26

Maximum Output Voltage (any 2 digits up to 60), non-inclusive list of examples	
06	6Vdc (5V nominal +10% trim)
13	13Vdc (12V nominal +10% trim)
17	17Vdc (15V nominal +10% trim)
26	26Vdc (24V nominal +10% trim)
31	31Vdc (28V nominal +10% trim)
53	53Vdc (48V nominal +10% trim)

xx = F0

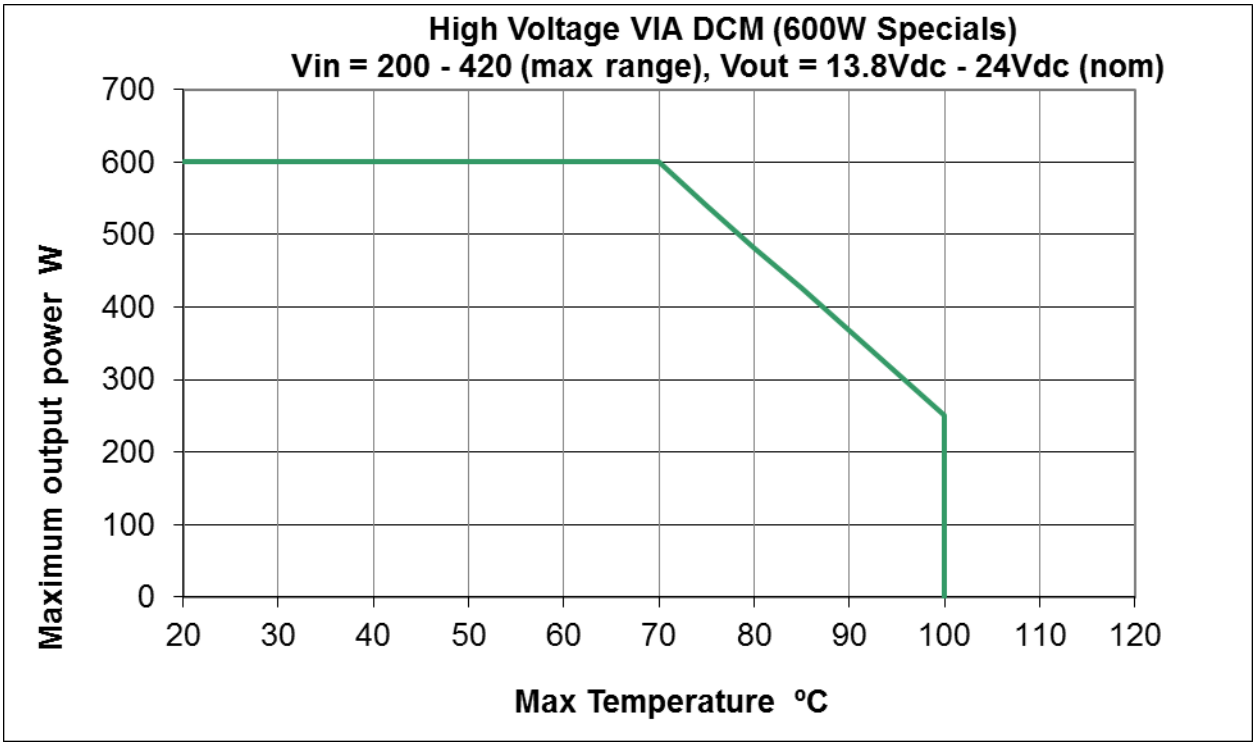
Maximum Output Power = 1st character + 2nd character (see table below, not to exceed 600W)					
1st character		2nd character			
A	100 W	0	0 W	5	50 W
B	200 W	1	10 W	6	60 W
C	300 W	2	20 W	7	70 W
D	400 W	3	30 W	8	80 W
E	500 W	4	40 W	9	90 W
F	600 W				
Examples: F0 = 600W (600W+0W), E0 = 500W (500W+0W), D7 = 470W (400W+70W), C5 = 350W (300W+50W)					

y = T

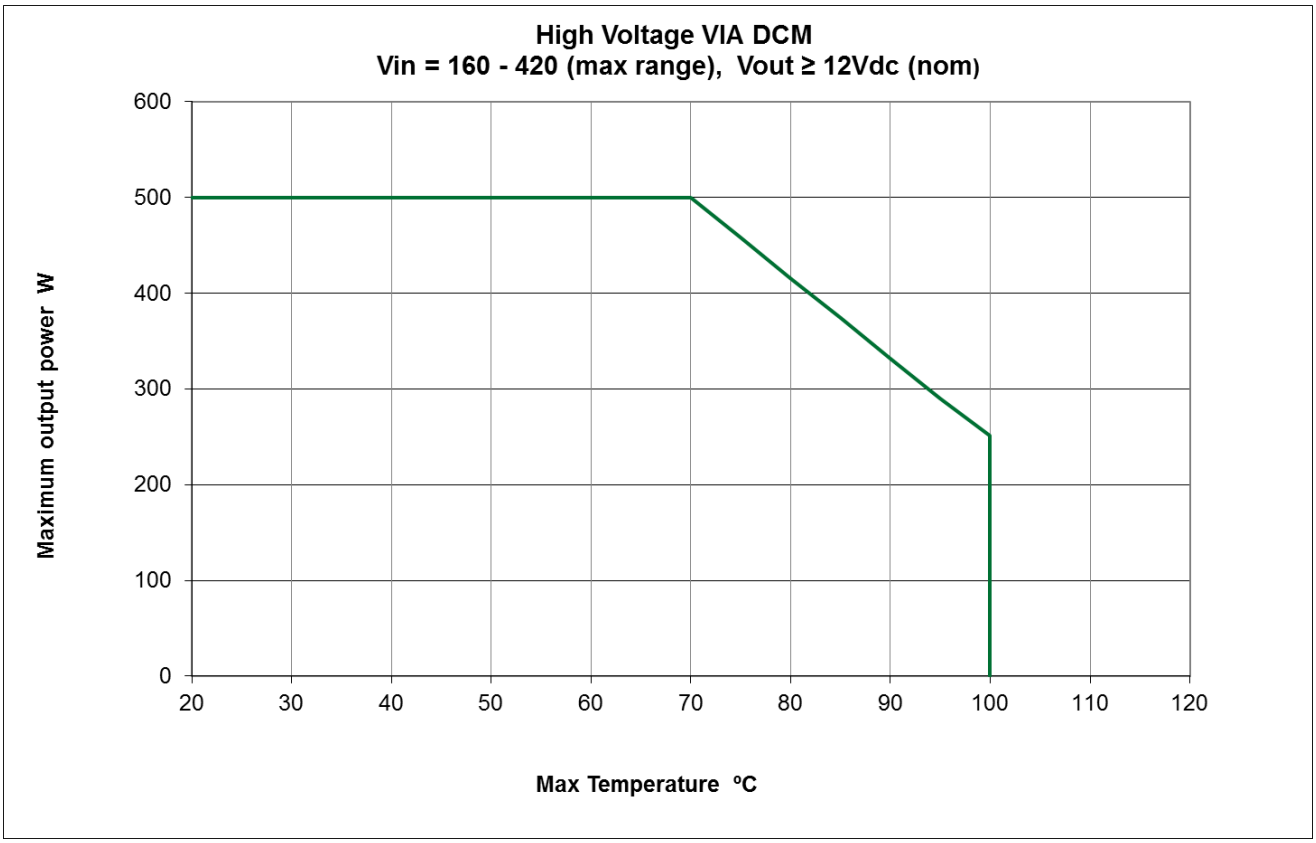
Product Grade	
C	-20 to 100°C
T	-40 to 100°C
M	-55 to 100°C

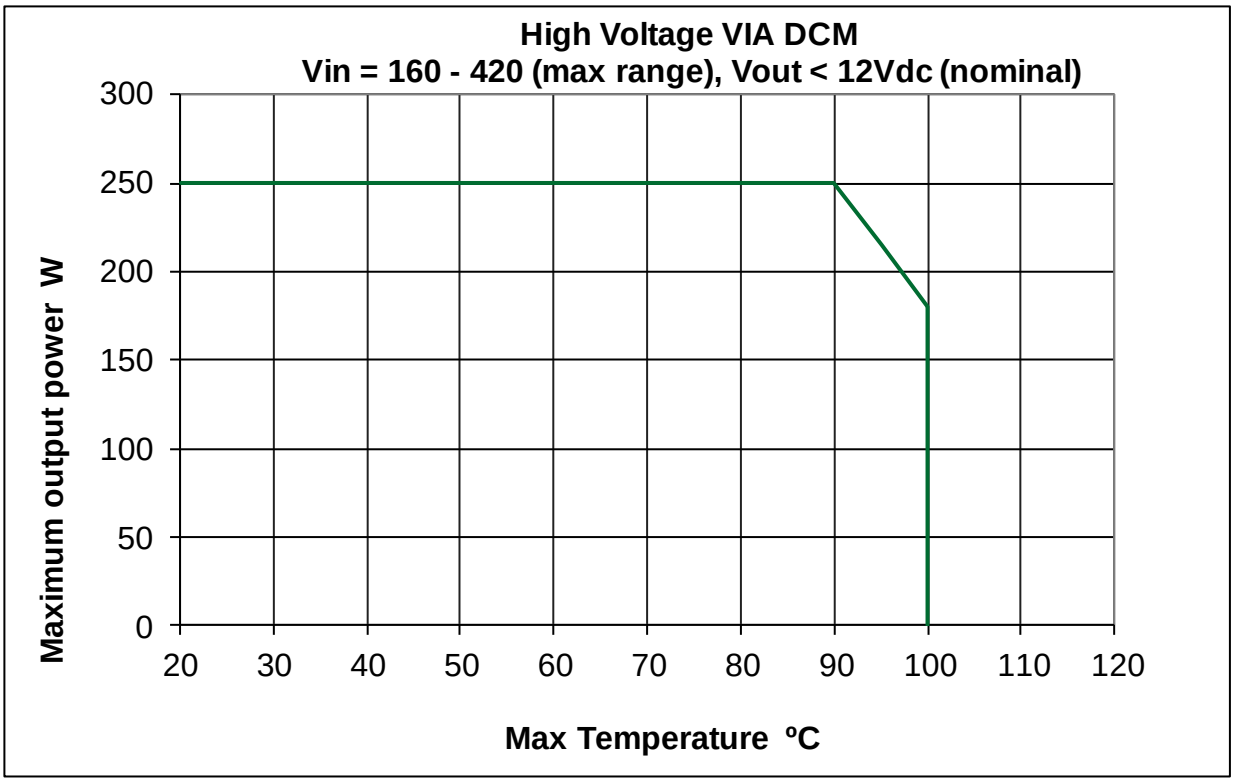
zz = 01

Options (non-safety related)	
01	Any alphanumeric



Pout vs. Vin de-rating curve for 600W specials model number **DCM3714xD2HwwF0yzz**


High Voltage VIA DCM
Vin = 160 - 420 (max range), Vout ≥ 12Vdc (nom)
Maximum output power W
600
500
400
300
200
100
0
20
30
40
50
60
70
80
90
100
110
120
Max Temperature °C


High Voltage VIA DCM
Vin = 160 - 420 (max range), Vout < 12Vdc (nominal)
Maximum output power W
300
250
200
150
100
50
0
20
30
40
50
60
70
80
90
100
110
120
Max Temperature ºC