

CERTIFICATE OF COMPLIANCE

Certificate Number 20140623-E135493
Report Reference E135493-A25-UL
Issue Date 2014-JUNE-23

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
HD DCM Brick Series
See Miscellaneous Enclosure for model details.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 60950-1 & 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 Recognized Component Marks for the U.S. and Canada should be considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada:  and the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory.

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 Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs

UL LLC

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UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2011-12-19 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-07, 2nd Edition, 2011-12 (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:	HD DCM Brick Series
	See Miscellaneous Enclosure for model details.
Rating:	Rated Input Voltage: 300Vdc(180-420)
	Rated Output Power: 400W max
	See Miscellaneous Enclosure for model details.
Applicant Name and Address:	VICOR CORP 25 FRONTAGE RD ANDOVER MA 01810-5499 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.

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Prepared by: Gerard Soprych

Reviewed by: Daniel Pirozzi

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 HD DCM Brick series of isolating DC-DC converters is designed for building-in. The output voltage is considered SELV.

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 : 180-420Vdc, Package size B (4623), 16-50 Vdc, Package size A (3623)
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : -
- Class of equipment : Not classified
- 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) : Less than 2000, Package size B (4623); Less than 5000, Package size A (3623)
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 0.096, Package size B (4623); 0.080, Package size A (3623)
- The HD DCM Brick series are a family of DC-DC converters are designed for building-in.

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 following secondary output circuits are at hazardous energy levels: All
- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- See de-rating curve for maximum output power and case temperature.
- The input of Package size B (4623) is separated from the output by reinforced insulation. , The input of Package size A (3623) is separated from the output by basic insulation. ,
- The case may be earthed or floating. The case must be earthed if it is operator accessible or connected to a user accessible conductive part in the end product. It must be earthed or suitably marked in service access areas.
- The Package size B (4623) HD DCM Bricks were evaluated with a Bussmann 5A PC-Tron fuse. The Package size A (3623) HD DCM Bricks were evaluated with both Littelfuse 30A Nano2 and Bussmann 30A ABC-30 fuses.

Additional Information

N/A

Markings and instructions

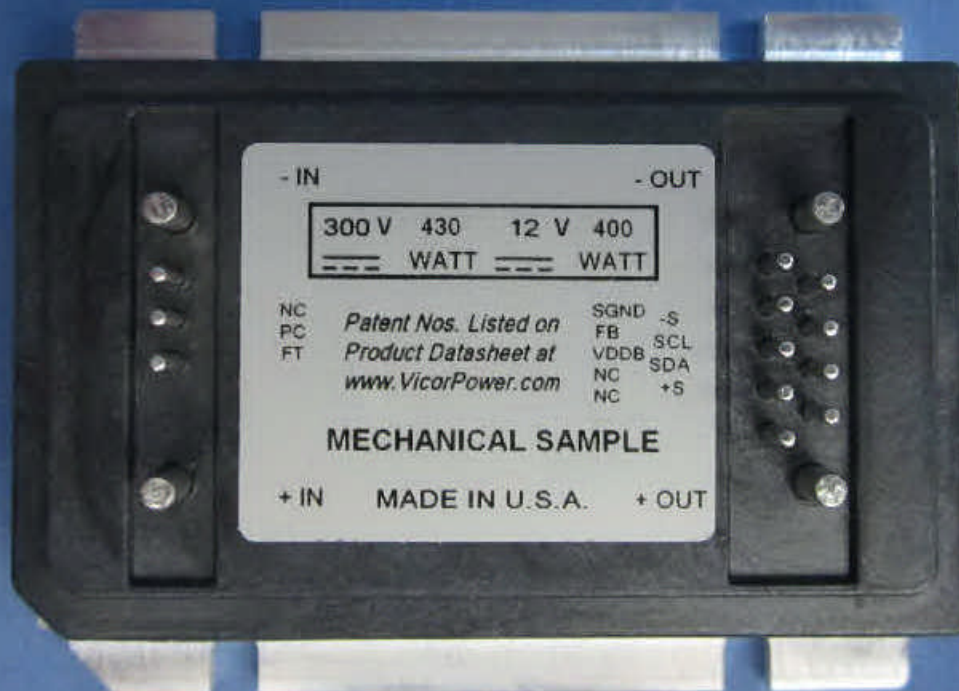
Clause Title	Marking or Instruction Details
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number

Special Instructions to UL Representative

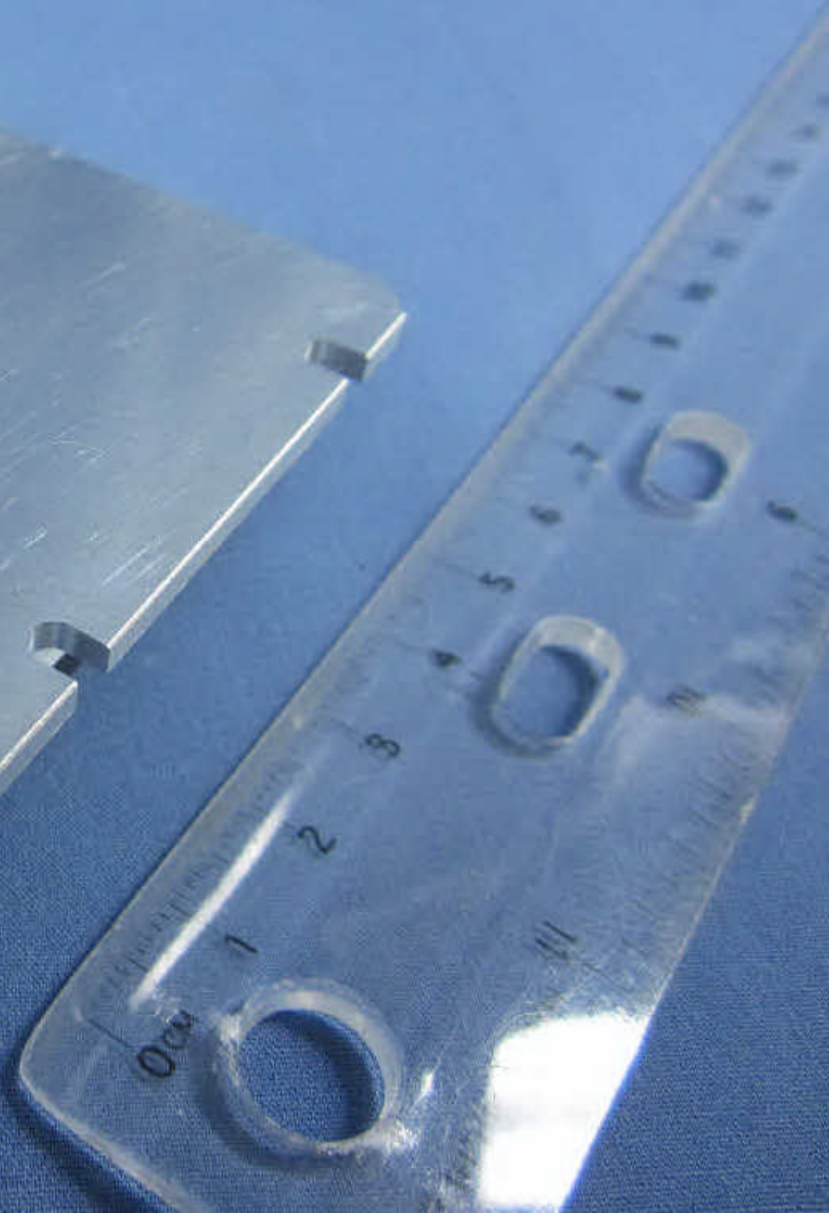
Optional - UR logo may appear on packaging.

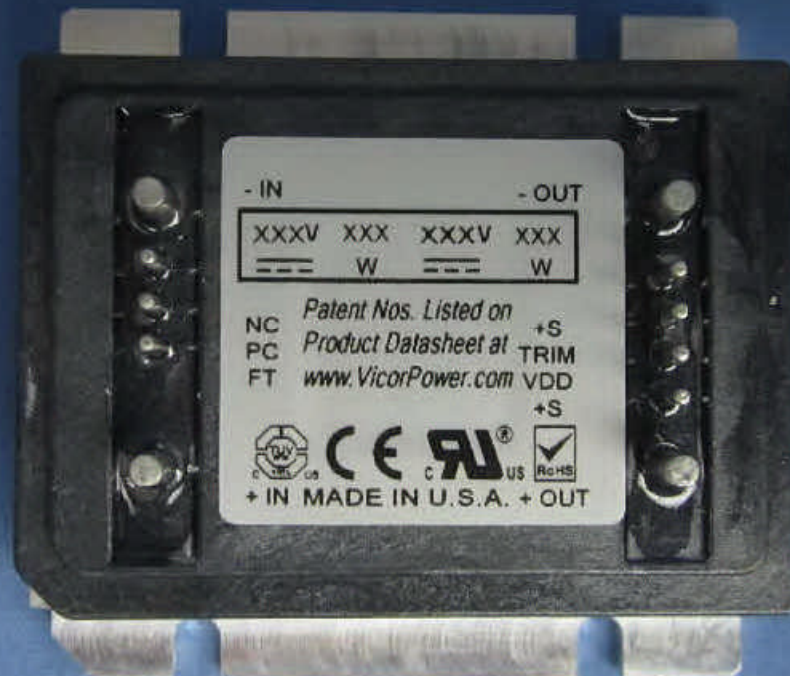
Enclosures

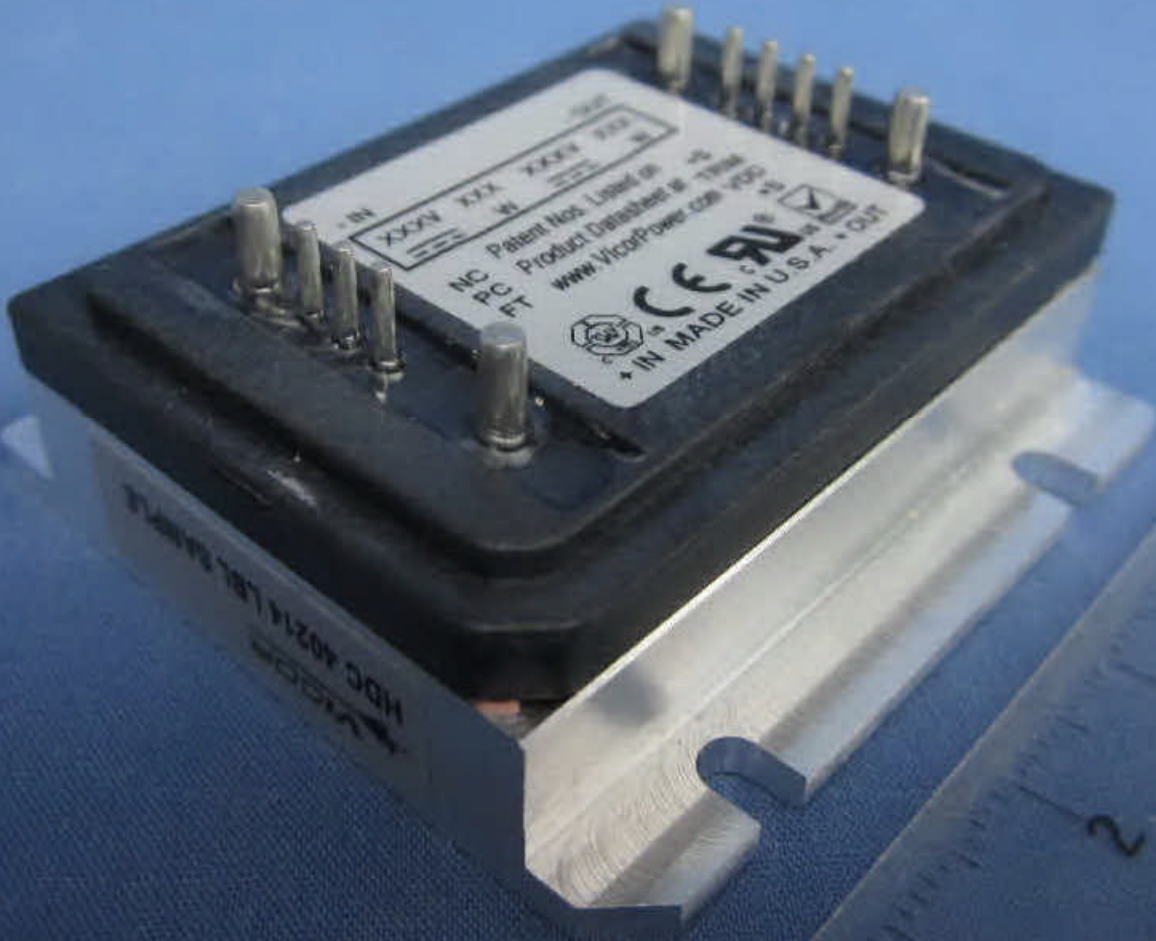
<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
Photographs	3-01	Top View, Package size B (4623)
Photographs	3-07	Side View, Package size B (4623)
Photographs	3-08	Heatsink View, Package size B (4623)
Photographs	3-09	Top View, Package size A (3623)
Photographs	3-10	Side View, Package size A (3623)
Photographs	3-11	Heatsink View, Package size A (3623)
Diagrams		
Schematics + PWB		
Manuals		
Miscellaneous	7-01	Model Matrix, Package size B (4623)
Miscellaneous	7-05	Derating Curves, Package size B (4623)
Miscellaneous	7-06	Model Matrix, Package size A (3623)
Miscellaneous	7-07	Derating Curves, Package size A (3623)

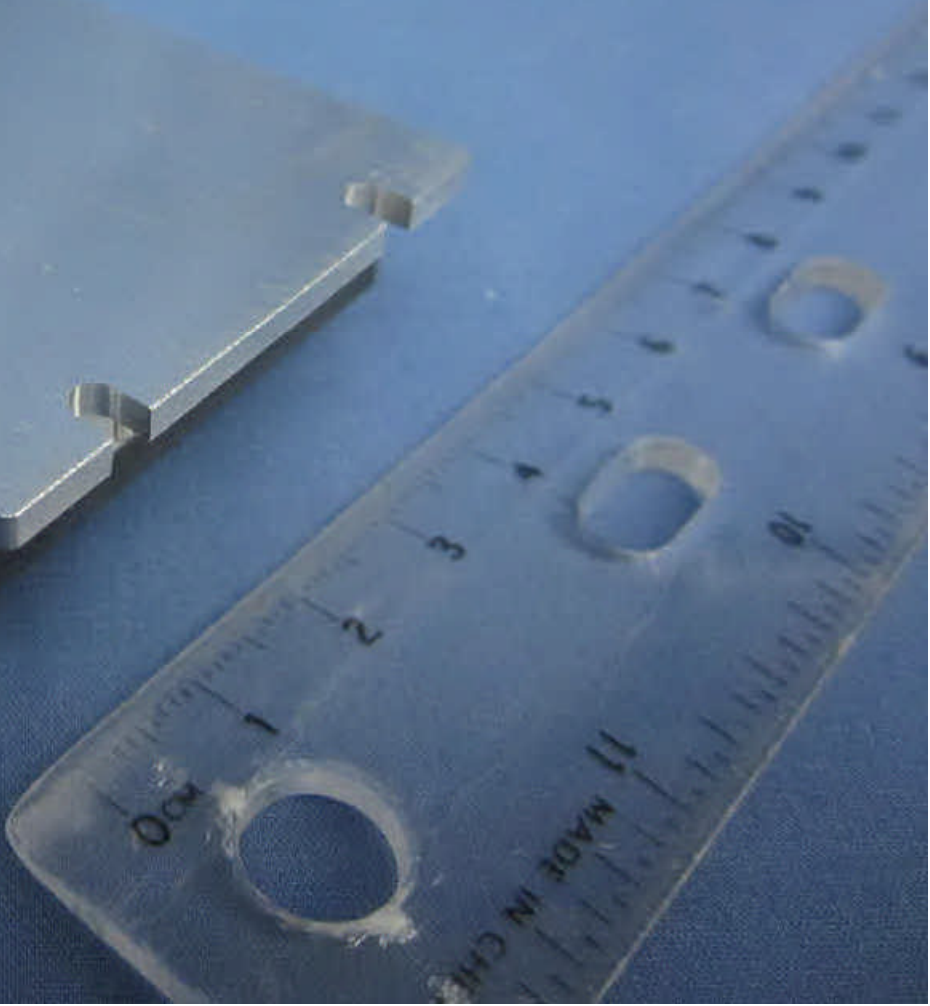
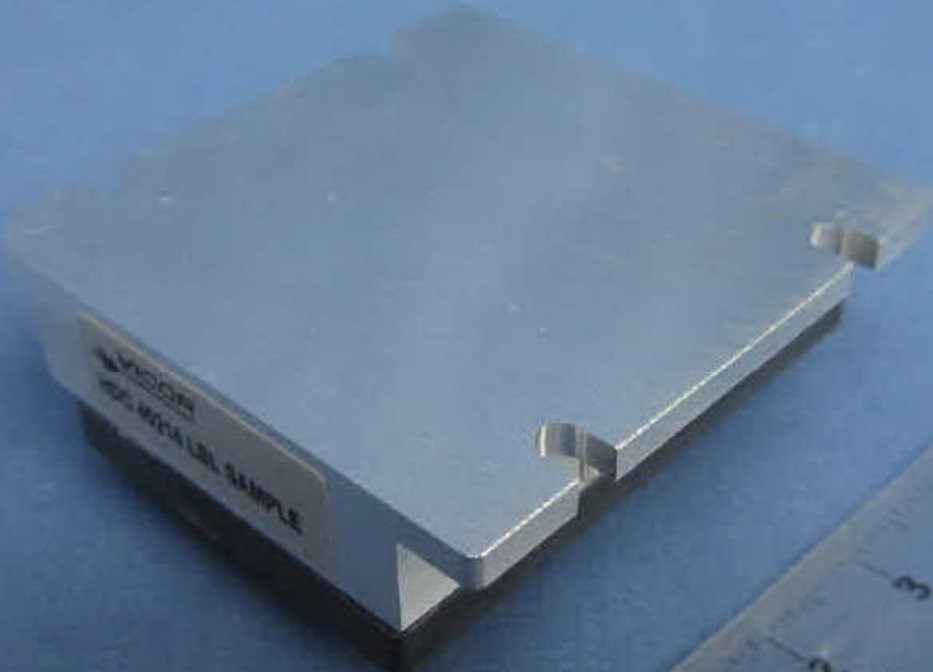












HD DCM Brick Model Number: HDabbbccdddefffx-yz

Example: HDC300B120T400L-00

HD = Constant

a = C

Model/Type	
C	Driver
B	Booster

bbb = 300

Input Voltage	Nominal (range)
028	3623-based Chip (Vin = 028)
300	4623-based Chip (Vin = 300)

c = B

Package Size	
A	3623-based Chip
B	4623-based Chip

ddd = 120

Output Voltage Designator, Vout = Designator / 10, any 3-digit number from 010 to 540. Non-inclusive list of examples below.			
120	12.0 Vdc	280	28.0 Vdc

e = T

Product Grade	
T	-40 to 125°C
M	-55 to 125°C
C	0 to 85°C

fff = 400

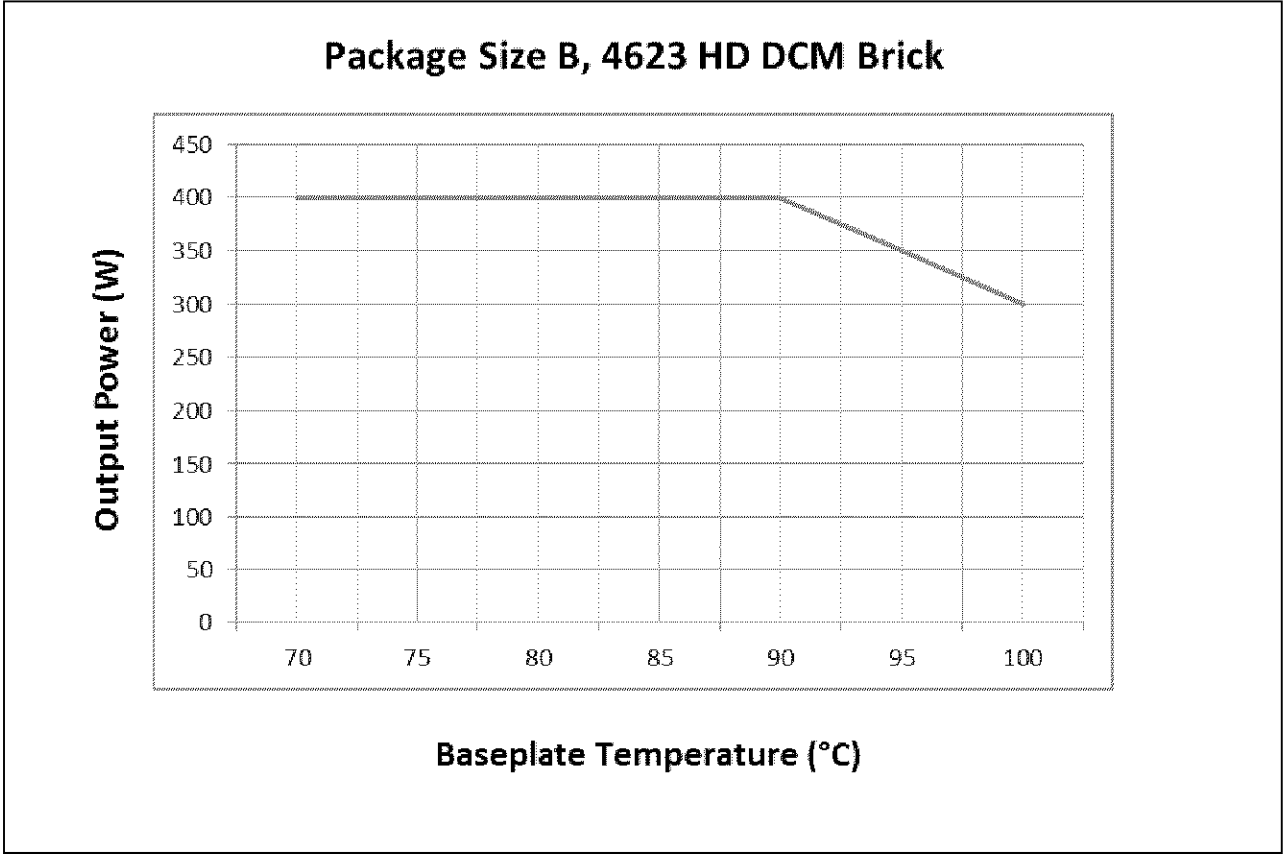
Output Power Designator, any 3-digit number from 000 to 400. Non-inclusive list of examples below.			
320	320 W	400	400 W

x = L

Package Type and pin style (non-safety related, any alphanumeric character non-inclusive list of examples)	
L	Flanged baseplate, standard pins
M	Flanged baseplate, special pins
N	Flangeless baseplate, standard pins
P	Flangeless baseplate, special pins

yz = 00

Customer Special Options (non-safety related, any alphanumeric character non-inclusive list of examples)	
00	Standard product
A1	Customer special



Package Size A, 3623 HD DCM Brick

