


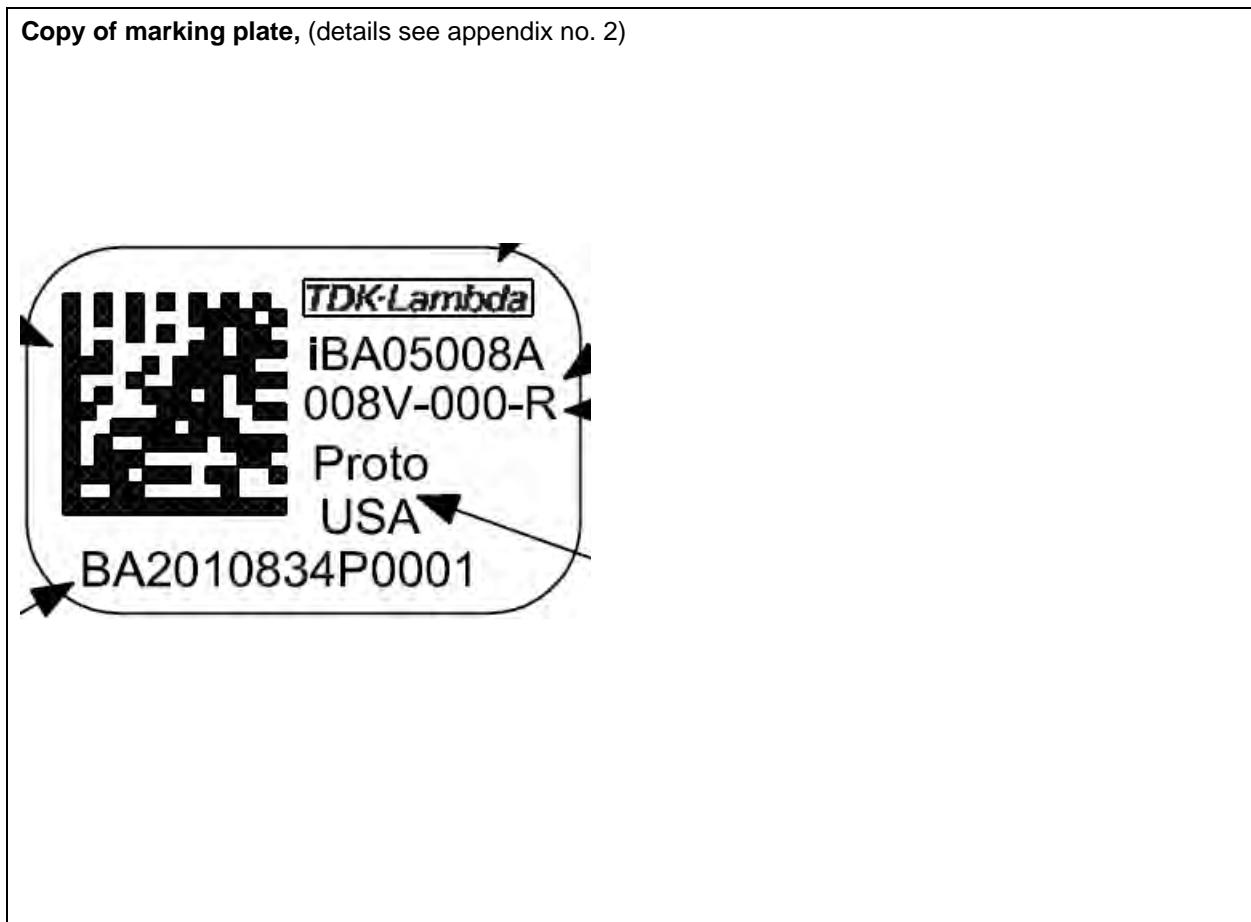


Test Report issued under the responsibility of



TEST REPORT IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006 + A11:2009-03 Information technology equipment – Safety – Part 1: General requirements	
Report Reference No.....	2520400-3336-0009/132550 CB/DE1- DE1-46619
Tested by (name + signature)	Ulrich Schafranka 
Approved by (name + signature)	Frank Richter 
Date of issue.....	2010-06-04
CB Testing Laboratory	VDE Testing and Certification Institute
Address.....	Merianstrasse 28, D-63069 Offenbach, Germany
Testing location / procedure	CBTL <input type="checkbox"/> RMT <input type="checkbox"/> SMT <input type="checkbox"/> WMT <input checked="" type="checkbox"/> TMP <input type="checkbox"/>
Testing location / address.....	TDK Innoveta Inc. 3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA WMT (TDAP File no. 2520400-9501-0001)
Applicant's name	TDK Innoveta Inc.
Address.....	3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA
Test specification:	
Standard	DIN EN 60950-1:2006 + A11 (VDE 0805-1 +A11): 2009-11 EN 60950-1:2006 +A11:2009-03 and/or IEC 60950-1:2005 (2 nd Ed.)
Test procedure	CB – Scheme, VDE
Non-standard test method	N/A
Test Report Form No.....	IECEN60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF.....	2006-06
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Test item description	:	DC - DC Converter for building in
Trade Mark	:	
Manufacturer	:	TDK Innoveta Inc.
Model/Type reference.....	:	iBA - Series
Serial Number.....	:	(see model matrix appendix 1)
Ratings.....	:	
	Input:	DC 3.0 – 5.5 V (SELV) (0% Tolerance), max. 8A (see model matrix appendix 1)
	Output:	(SELV), max. 26.4 W, refer to model matrix
	Ambient:	Max. 125°C at Q2



Summary of testing:		
Clause 1.5	Components	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 1.6	Power interface	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 1.7	Markings and instructions	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 2.1	Protection from electric shock and energy hazards	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 2.2	SELV circuits	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 2.3	TNV circuits.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.4	Limited current circuits.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.5	Limited power sources.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.6	Provisions for earthing and bonding	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.7	Overcurrent and earth fault protection in primary circuits.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.8	Safety interlocks	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 2.9	Electrical insulation	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 2.10	Clearances, creepage distances and distances through insulation	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 3.1	Wirings.....	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 3.2	Connection to an a.c. mains supply or a d.c. mains supply	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 3.3	Wiring terminals for connection of external conductors.....	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 3.4	Disconnection from the mains supply.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 3.5	Interconnection of equipment	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 4.1	Stability	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 4.2	Mechanical strength.....	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 4.3	Design and construction	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 4.4	Protection against hazardous moving parts	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 4.5	Thermal requirements.....	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 4.6	Openings in enclosures	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 4.7	Resistance to fire	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 5.1	Touch current and protective conductor current.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 5.2	Electric strength	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 5.3	Abnormal operating and fault conditions	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Clause 6	Connection to telecommunication networks.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Clause 7	Connection to cable distribution systems	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Annex B	Motor Tests under abnormal conditions	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Annex C	Transformers	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
Annex G	Alternative Method for determining minimum clearances	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Annex M	Criteria for telephone ringing signals.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A
Annex U	Insulated winding wires for use without interleaved insulation.....	<input type="checkbox"/> Pass <input checked="" type="checkbox"/> N/A

Test item particulars	
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> stationary <input type="checkbox"/> fixed <input type="checkbox"/> transportable <input checked="" type="checkbox"/> for building-in
Connection to the mains.....	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> direct plug-in <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> for building-in
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> short-time <input type="checkbox"/> intermittent
Over voltage category	<input checked="" type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV
Mains supply tolerance (%)	Unit is rated 0% tolerance
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	--
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Mass of equipment (kg)	<18kg
Pollution degree	<input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IP not applicable
Possible test case verdicts	
- test case does not apply to the test object	N/A (Not Applicable)
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item.....	2003-12-15 and 2010-06-03
Date(s) of performance of tests.....	2003-12-15 until 2003-12-16 and 2010-06-04
General remarks:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.	
"(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.	
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Factories (for information only) :	
Name	TDK Innoveta Inc.
Address.....	3320 Matrix Drive, Suite 100, Richardson, Texas 75082, USA
Name	Nemic-Lambda Malaysia
Address.....	PL033 Kawasan perindustrian Senai , Locked Bag No. 110, 81400 Senai, Johor, Malaysia

General product information:

Complete details of construction and testing as well as supporting documentation such as photographs and schematics are included in the attachment.

The label includes: Optional "-R" appended to product code to indicate ROHS compliance.

eg. iBAXXXXXXXXXX-### -R Series

Product Overview:

The Metamere iBA product family consists of high density non-isolated DC-DC power modules intended to be purchased and used as a component in an end-user's power system.

The modules currently come in one input voltage range; a wide range 3.0 – 5.5 V input.

The output voltage will be between 0.9V and 3.3V depending upon the model number.

The rated output current will be up to 8A.

The rated output power will be maximum 26.4W. (See Appendix no. 1 for details).

The maximum temperature is specified with 125°C at reference point (Q2)

The product is available in one mechanical configuration – the iBA.

The design intention is that the modules within a platform consist of a family of units with similar output voltage and current with the exception of the feature option. The major differences between the modules will be as follows:

The semiconductors such as main switches Q1 & Q2 will be the same physical package but may be different devices depending upon the specific voltage and current stresses in the various power module designs.

The core on board output filter inductors and the input and output capacitors will be in the same physical packages but may be different values depending upon the specific voltage and current stresses in various module designs.

Control circuits will have value changes to scale the typical circuit parameters such as output voltage and output current limit set point as required for different designs.

Other control circuits such as the feedback compensation may have value changes as required for each specific design.

Information/comments:

Tests were performed on model iBA05008A008V-0## output DC 3.3 V /8A /26.4 W , for reference, since all models uses the same electrical circuits. The unit was tested with a maximum continuous output

The Electrical and Fire Enclosures are to be provided by the end product.

The power supply series provides functional insulation, between input and output.

If the input meets all requirements for SELV, then the output may be considered SELV

The power models are not internally fused. An external input line normal blow fuse with a max. value of 15 A is required.

The product has been tested according to standard IEC 60950-1:2005 (2 nd Edition) / EN 60950-1:2006 and those deviations taken into account of				
<input checked="" type="checkbox"/> CENELEC common modifications	<input checked="" type="checkbox"/> United Kingdom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Finland	<input checked="" type="checkbox"/> Denmark	<input checked="" type="checkbox"/> Ireland	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Sweden	<input checked="" type="checkbox"/> Germany	<input checked="" type="checkbox"/> Spain	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Norway	<input checked="" type="checkbox"/> Switzerland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input checked="" type="checkbox"/> CB Bull. NATIONAL DIFFERENCES IEC 60950-1(2nd Edition)				
<input checked="" type="checkbox"/> Switzerland	<input checked="" type="checkbox"/> Spain	<input checked="" type="checkbox"/> Ireland	<input checked="" type="checkbox"/> Sweden	<input checked="" type="checkbox"/> USA
<input checked="" type="checkbox"/> Germany	<input checked="" type="checkbox"/> Finland	<input checked="" type="checkbox"/> Korea	<input checked="" type="checkbox"/> Group Differences	<input type="checkbox"/>
<input checked="" type="checkbox"/> Denmark	<input checked="" type="checkbox"/> United Kingdom	<input checked="" type="checkbox"/> Norway	<input checked="" type="checkbox"/> Canada	<input type="checkbox"/>

These tests fulfil the requirements of standard EN ISO/IEC 17025.

This test report includes the following documents:	
Description	Page(s)
Test report	69
Appendix No. 1 Model Matrix	1
Appendix No. 2 Rating Label	1
Appendix No. 3 Photo(s)	1
Appendix No. 4 Schematics, Layouts	3
Appendix No. 5 Test Instruments Reference List	1
Total pages:	76

Project history:			
Rev.	CB-No	Description	TR-date
1	DE1-30360	Main Test report, VDE-file 2520400-3336-0009/39465, issuing of VDE license 40009275	2004-02-04
2	DE1-30360/M1	VDE-file 2520400-3336-0009/72093, addition of alternate factories and standard upgrade to IEC/EN 60950-1 (1 st Ed.)	2006-03-15
3	DE1-46619	This report. Upgrade to IEC 60950-1:2005 (2 nd Edition) and /or EN 60950-1:2006 by this Test Report, VDE-file 2520400-3336-0009/132550.	2010-06-03