



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956

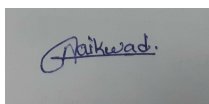


TC-6468

TEST REPORT

TEST REPORT NO:	URS/LAB/02/RID/25-26/2931	DATE OF ISSUE:	21/05/2025
ULR NUMBER	ULR-TC646825100014714F		
NAME OF LABORATORY:	URS PRODUCTS AND TESTING PRIVATE LIMITED		
ADDRESS OF LABORATORY:	A-29, Sector 5, Noida-201301, India		
TESTING LOCATION:	A-29, Sector 5, Noida-201301, India		
CUSTOMER NAME:	INTEGRATED BATTERIES INDIA PRIVATE LTD		
CUSTOMER ADDRESS:	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301.		
TEST ITEM DESCRIPTION			
PRODUCT NAME:	SOLAR PV MODULE		
DATE OF RECEIPT	01/04/2025	SAMPLE CONDITION:	OK
RECEIPT NUMBER	URS/LAB/PV MODULE PID-62804/25-26/12D136CC	NO. OF SAMPLE	5
TRADE MARK		SERIAL NUMBER	IB6400082400007 IB6400082400036 IB6400082400033 IB6400082400029 IB6400525200686
MODEL	Tested Model: IBMPH-640		
RATINGS/SPECIFICATION	See the marking Label		
NAME OF MANUFACTURER	INTEGRATED BATTERIES INDIA PRIVATE LTD		
ADDRESS OF MANUFACTURER	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301.		
TEST SPECIFICATION			
TEST METHOD / STANDARD	IEC TS 62804-1:2015 and as per MNRE guidelines.		
TEST START DATE	01/04/2025	TEST END DATE	23/04/2025
ENVIRONMENTAL CONDITIONS	23±5°C, <70%Rh		
CONCLUSION			
TEST RESULT	The test result Conforms to the requirement of the standard/test protocol based on the obtained test values/results mentioned in this test report.		
REMARK	Compliance statement in this report has been made considering decision rule as inherent in its test standard and latest version of ILAC G-8.		

TESTED BY



Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY



Paras Singh
Vice President (Technical)

Note:

1. This test report is valid only for the sample(s) tested in our laboratory. 2. The test report is not permitted to be duplicated/reproduced in part or in extract in any circumstances. 3. URS lab is not responsible for authenticity of photocopied or reproduced test report. 4. The test results reported in this report are valid at the time of and under the stated conditions of measurements. 5. The remnant(Tested Samples)shall be destroyed after 07days from the date of testing unless specified otherwise in writing. 6. Any correction/erasure shall invalidate the test report. 7. This test report pertains to the test(s) carried out as requested by the customer. 8. This test report shall not be utilized for any legal purpose and shall not be produced in the court of law & no responsibility would be attached to URS Lab. 9. URS reports, in general, are formally released in soft copy through reports@urs-labs.com, client portal, unless client will specifically request with sign & stamped letter with the intent to issue test reports in hard copy form. URS will not acknowledge for the reports said to be released through other means such as what's app. Test Reports for specific schemes such as BIS CRS/LRS schemes, are issued as per specific scheme requirements.

URS/TEE/F/19 Issue No. 05



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE: 21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY: Noida

TEST REPORT	
IEC TS 62804 -1: 2015	
Photovoltaic (PV) modules – Test methods for the detection of potential – induced degradation – Part 1: crystalline silicon	
Report Reference No.....:	URS/LAB/02/RID/25-26/2931
Date of issue.....:	21/05/2025
Total number of pages.....:	20
Testing Laboratory.....:	URS PRODUCTS AND TESTING PRIVATE LIMITED
Address.....:	A-29, Sector 5, Noida-201301, India
Applicant's name.....:	INTEGRATED BATTERIES INDIA PRIVATE LTD.
Address.....:	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301
Test specification.....:	
Standard.....:	IEC TS 62804 -1: 2015 and as per MNRE guidelines.
Test item description.....:	Solar PV Module
Trade Mark/Brand.....:	
Manufacturer.....:	INTEGRATED BATTERIES INDIA PRIVATE LTD.
Factory.....:	Plot no. 40 Sector Ecotech 10 Greater Noida Uttar Pradesh 201301
Model/Type reference.....:	IBMPH-640 (TESTED MODEL)
Ratings.....:	See the marking Label

TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE

Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TC-6468

TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Summary of testing:	
Tests performed (name of test and test clause):	URS PRODUCTS AND TESTING PRIVATE LIMITED A-29, Sector 5, Noida-201301, India
Preconditioning	
10.1 Visual Inspection (Initial)	
10.2 Maximum Power Determination (Initial)	
10.15 Wet leakage current test (Initial)	
MST 13 Ground Continuity Test	
PID stress test 3 cycles (1 cycle = 96h) Clause - 4.3.2	
10.2 Maximum Power Determination After(1st CYCLE, 2 nd CYCLE ,3 rd CYCLE)	
10.15 Wet leakage current test After (1st CYCLE, 2 nd CYCLE ,3 rd CYCLE)	
10.1 Visual Inspection After (1st CYCLE, 2 nd CYCLE ,3 rd CYCLE)	

TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

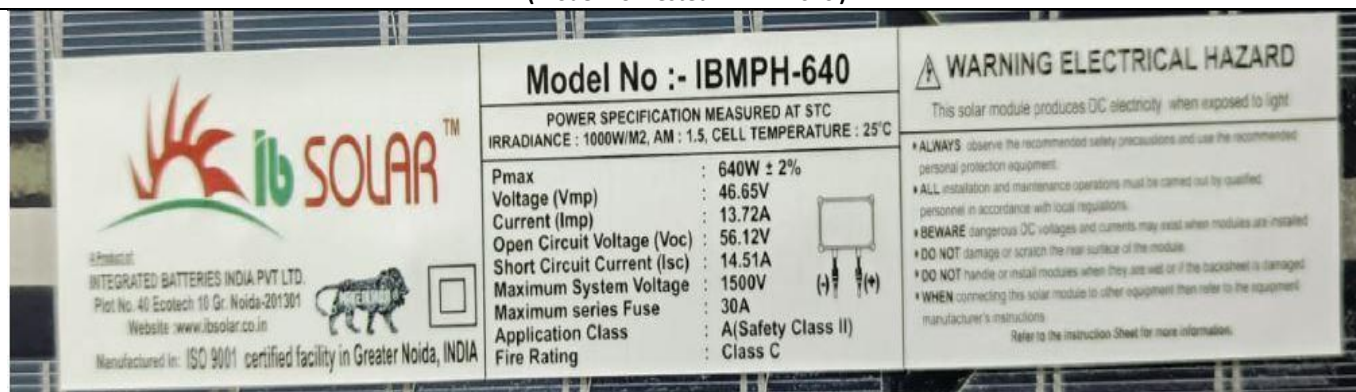
DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Copy of Marking Plate (Model No. Tested: IBMPH-640)



Polarity marking on Junction Box



Polarity marking on Connectors



TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

GENERAL INFORMATION	
Test item particulars:	Crystalline silicon photovoltaic module.
Accessories and detachable parts included in the evaluation.....:	N/A
Options included.....:	N/A
<u>Abbreviations used in the report:</u>	
Vmp–Maximum power voltage	Imp–Maximum power current
Voc–Open circuit voltage	Isc-Short circuit current
FF–Fill Factor	Pmp –Maximum power
STC –Standard Test Conditions	
<u>Possible test case verdicts:</u>	
-test case does not apply to the test object.....:	N/A (Not Applicable)
-test object does meet the requirement.....:	Pass (P)
-test object does not meet the requirement.....:	Fail (F)
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 point is used as the decimal separator.	

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

General Product Information:

PV module type reference.....: **IBMPH-640**

Product Electrical Ratings at STC

Nominal maximum power (Pmax).....: 640W

Nominal open circuit voltage at (Voc).....: 56.12V

Nominal short circuit current at (Isc).....: 14.51A

Nominal maximum power voltage (Vpm).....: 46.65V

Nominal maximum power current (Ipm).....: 13.72A

Product Safety Ratings

Maximum system voltage.....: 1500V DC

Maximum over-current protection rating.....: 30A

Safety application class.....: CLASS A

Safety class in accordance with IS 61140.....: CLASS II

Fire safety class.....: CLASS C

Module Dimension(mm).....: 2466 x 1135x 35

Module group assignment:

Model	Sample #	Serial number
IBMPH-640	1	IB6400082400007
	2	IB6400082400036
	3	IB6400082400033
	4	IB6400082400029
	5	IB6400525200686

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TC-6468

TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

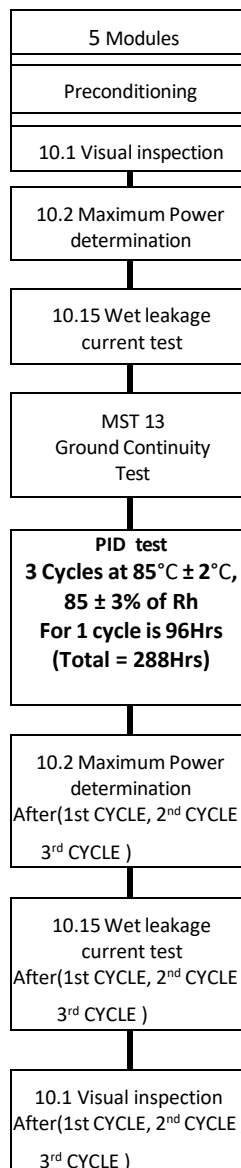
ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

10	TEST PROCEDURES
----	-----------------

TEST PROCEDURES



TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE

Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
4	MARKING		P
	Name, monogram or symbol of manufacturer.....:	INTEGRATED BATTERIES INDIA PRIVATE LTD.	P
	Type or model number.....:	IBMPH-640	P
	Serial number.....:	Marked	P
	Polarity of terminals or leads.....:	Marked	P
	Maximum system voltage.....:	1500V DC	P
	The date and place of manufacturer.....:	Marked	P
	Initial examination	All Modules	P
10	Preconditioning.....:	5.0 kWh/m ²	P
10.1	Visual inspection.....:	See table 10.1	P
10.2	Maximum power determination.....:	See table 10.2	P
10.15	Wet leakage current test.....:	See table 10.15	P
MST 13	Ground continuity test.....:	See table MST 13	P
4.3.2	PID Test: 3 Cycles at 85°C ± 2°C, 85 ± 3% of Rh for 1 cycle is 96Hrs – Total = 288Hrs	See table Test Condition: 3 Cycles at 85°C ± 2°C, 85 ± 3% of Rh, for 1 cycle is 96Hrs – Total = 288Hrs	P

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
--------	--------------------	---------------	---------

10.1 Initial	TABLE: Visual inspection -Initial after Preconditioning		P
Test Date [MM/DD/YYYY].....:		04/07/2025	-
Sample #	Nature and position of initial findings – comments or attach photos		-
1(CONTROL)	No defect found		P
2	No defect found		P
3	No defect found		P
4	No defect found		P
5	No defect found		P
Supplementary information: Nil			

10.2 Initial	TABLE: Maximum power determination -Initial after Preconditioning					P
Test Date [MM/DD/YYYY].....:	04/07/2025					-
Module temperature [°C].....:	25					-
Irradiance [W/m ²].....:	1000					-
Sample#	Voc[V]	Vmp [V]	Isc [A]	Imp [A]	Pmp [W]	FF[%]
1(CONTROL)	56.14	46.65	14.513	13.729	640.46	78.61
2	56.12	46.68	14.485	13.725	640.68	78.81
3	56.08	46.64	14.472	13.723	640.04	78.86
4	56.09	46.67	14.462	13.724	640.50	78.96
5	56.13	46.64	14.465	13.726	640.18	78.85
Supplementary information: Nil						

10.15 Initial		TABLE: Wet leakage current test – Initial after Preconditioning		P
Test Date [MM/DD/YYYY].....:		04/07/2025		-
Test Voltage applied [V].....:		1500		-
Solution resistivity [Ω cm].....:		<3500 at 22 ± 3°C	2524	-
Surface tension [Nm ⁻¹].....:		<0.03 at 22 ± 3°C	-	-
Solution temperature [°C].....:		23.4		-
Sample#	Measured[MΩ]	Limit[MΩ]		Result
1(CONTROL)	>1000	14.29		P
2	>1000	14.29		P
3	>1000	14.29		P
4	>1000	14.29		P
5	>1000	14.29		P
Supplementary information: Area of module 2.80 [m²].				

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
10.4 Initial	TABLE: Ground Continuity Test - MST 13 – Initial after Preconditioning		P
	Test Date [MM/DD/YYYY].....:	04/07/2025	-
	Maximum system voltage [V _{DC}].....:	1500V	-
	Current applied [A].....:	75A	-
	Location of designated grounding point.....:	Ground holes on the sides of the frame	-
	Location of second contacting point.....:	Greatest physical displacement from the grounding point.	-
	Sample No.	Voltage [V _{DC}]	Resistance [MΩ]
	1(CONTROL)	0.48	6.400
	2	0.44	5.867
	3	0.43	5.733
	4	0.41	5.467
	5	0.40	5.333
Supplementary information: Nil			

4.3.2	TABLE: Potential Induced Degradation Test- Cycle 1		P
	Test Date [MM/DD/YYYY].....:	04/08/2025 TO 04/12/2025	-
	Chamber Temperature [°C]	85±2°C	-
	Chamber Rh(%)	85±3%	-
	Hours of exposure	At 85°C ± 2°C, 85 ± 3% of Rh for 96Hrs	-
	Sample#	-	Result
	2	1500(+ve)	P
	3	1500(+ve)	P
	4	1500(-ve)	P
	5	1500(-ve)	P
Supplementary information: Area of module 2.80[m ²].			

10.2 Final	TABLE: Maximum power determination - after Cycle 1							P
	Test Date [MM/DD/YYYY].....:	04/12/2025						-
	Module temperature [°C].....:	25						-
	Irradiance [W/m ²].....:	1000						-
	Sample#	Voc[V]	Vmp[V]	Isc[A]	Imp[A]	Pmp [W]	FF[%]	Degradation [%]
	1(CONTROL)	56.13	46.63	14.512	13.728	640.14	78.59	-0.05
	2	56.11	46.55	14.484	13.723	638.81	78.60	-0.29
	3	56.06	46.46	14.470	13.721	637.48	78.59	-0.40
	4	56.07	46.44	14.462	13.722	637.25	78.59	-0.51
	5	56.12	46.38	14.463	13.718	636.24	78.39	-0.62
Supplementary information:								
Total Degradation Observed: initial to cycle 1 (In Table).								

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
10.15	TABLE: Wet leakage current test – after Cycle 1		P
Test Date [MM/DD/YYYY].....:	04/12/2025		-
Test Voltage applied [V].....:	1500		-
Solution resistivity [Ω cm].....:	<3500 at $22 \pm 3^\circ\text{C}$	2554	-
Surface tension [Nm^{-1}].....:	<0.03 at $22 \pm 3^\circ\text{C}$	-	-
Solution temperature [$^\circ\text{C}$].....:	23.3		-
Sample#	Measured[M Ω]	Limit[M Ω]	Result
1(CONTROL)	>1000	14.29	P
2	>1000	14.29	P
3	>1000	14.29	P
4	>1000	14.29	P
5	>1000	14.29	P
Supplementary information: Area of module 2.80[m ²].			

10.1	TABLE: Visual inspection – after Cycle 1		P
Test Date [MM/DD/YYYY].....:	04/12/2025		-
Sample #	Nature and position of initial findings – comments or attach photos		-
1(CONTROL)	No visual defect		P
2	No visual defect		P
3	No visual defect		P
4	No visual defect		P
5	No visual defect		P
Supplementary information: Nil			

4.3.2	TABLE: Potential Induced Degradation Test- Cycle 2		P
Test Date [MM/DD/YYYY].....:	04/14/2025 TO 04/18/2025		-
Chamber Temperature [$^\circ\text{C}$]	$85 \pm 2^\circ\text{C}$		-
Chamber Rh(%)	$85 \pm 3\%$		-
Hours of exposure	At $85^\circ\text{C} \pm 2^\circ\text{C}$, $85 \pm 3\%$ of Rh for 96Hrs		-
Sample#	-		Result
2	1500(+ve)		P
3	1500(+ve)		P
4	1500(-ve)		P
5	1500(-ve)		P
Supplementary information: Area of module 2.80 [m ²].			

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE

Paras Singh

Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
--------	--------------------	---------------	---------

10.2 Final	TABLE: Maximum power determination –After Cycle 2							P
Test Date [MM/DD/YYYY].....:	04/18/2025							-
Module temperature [°C].....:	25							-
Irradiance [W/m ²].....:	1000							-
Sample#	Voc[V]	Vmp[V]	Isc[A]	Imp[A]	Pmp [W]	FF[%]	Degradation [%]	Limit[%]
1(CONTROL)	56.11	46.61	14.511	13.722	639.58	78.55	-0.09	- 5
2	56.09	46.22	14.482	13.716	633.95	78.04	-0.76	- 5
3	56.04	46.08	14.468	13.718	632.13	77.96	-0.84	- 5
4	56.02	45.97	14.458	13.716	630.52	77.85	-1.06	- 5
5	56.08	45.90	14.461	13.710	629.29	77.60	-1.09	- 5
Supplementary information: Total Degradation Observed: Cycle 1 to Cycle 2 (in Table) Initial to Cycle 2:- 1: (-0.14) , 2: (-1.05) , 3: (-1.24), 4: (-1.56) , 5: (-1.70)								

10.15		TABLE: Wet leakage current test – After Cycle 2			P
Test Date [MM/DD/YYYY].....:		04/18/2025			-
Test Voltage applied [V].....:		1500			-
Solution resistivity [Ω cm].....:		<3500 at 22 ± 3°C	2585		-
Surface tension [Nm ⁻¹].....:		<0.03 at 22 ± 3°C	-		-
Solution temperature [°C].....:		23.6			-
Sample#	Measured[MΩ]	Limit[MΩ]			Result
1(CONTROL)	>1000	14.29			P
2	>1000	14.29			P
3	>1000	14.29			P
4	>1000	14.29			P
5	>1000	14.29			P
Supplementary information: Area of module 2.80 [m²].					

10.1	TABLE: Visual inspection - After Cycle 2		P
Test Date [MM/DD/YYYY].....:	04/18/2025		-
Sample #	Nature and position of initial findings – comments or attach photos		-
1(CONTROL)	No visual defect		P
2	No visual defect		P
3	No visual defect		P
4	No visual defect		P
5	No visual defect		P
Supplementary information: Nil			

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
4.3.2	TABLE: Potential Induced Degradation Test- Cycle 3		P
Test Date [MM/DD/YYYY].....:	04/19/2025 TO 04/23/2025		-
Chamber Temperature [°C]	85±2°C		-
Chamber Rh(%)	85±3%		-
Hours of exposure	At 85°C ± 2°C, 85 ± 3% of Rh for 96Hrs		-
Sample#			Result
2	1500(+ve)		P
3	1500(+ve)		P
4	1500(-ve)		P
5	1500(-ve)		P
Supplementary information: Area of module 2.80 [m ²].			

10.2 Final	TABLE: Maximum power determination –After Cycle 3							P
Test Date [MM/DD/YYYY].....:	04/23/2025							-
Module temperature [°C].....:	25							-
Irradiance [W/m ²].....:	1000							-
Sample#	Voc[V]	Vmp[V]	Isc[A]	Imp[A]	Pmp [W]	FF[%]	Degradation [%]	Limit[%]
1(CONTROL)	56.09	46.54	14.509	13.718	638.44	78.45	-0.18	- 5
2	56.06	45.80	14.478	13.712	628.01	77.38	-0.94	- 5
3	56.01	45.63	14.465	13.710	625.59	77.22	-1.03	- 5
4	56.00	45.50	14.455	13.705	623.58	77.03	-1.10	- 5
5	56.05	45.40	14.459	13.702	622.07	76.76	-1.15	- 5
Supplementary information:								
Total Degradation Observed: Cycle 2 to Cycle 3 (in Table).								
Initial to Cycle 3:- 1: (-0.32) , 2: (-1.98) , 3: (-2.26) , 4: (-2.64) , 5: (-2.83)								

10.15		TABLE: Wet leakage current test – After Cycle 3			P
Test Date [MM/DD/YYYY].....:		04/23/2025			-
Test Voltage applied [V].....:		1500			-
Solution resistivity [Ω cm].....:		<3500 at 22 ± 3°C	2627		-
Surface tension [Nm ⁻¹].....:		<0.03 at 22 ± 3°C	-		-
Solution temperature [°C].....:		23.6			-
Sample#	Measured[MΩ]	Limit[MΩ]			Result
1(CONTROL)	>1000	14.29			P
2	>1000	14.29			P
3	>1000	14.29			P
4	>1000	14.29			P
5	>1000	14.29			P
Supplementary information: Area of module 2.80 [m²].					

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Clause	Requirement + Test	Result-Remark	Verdict
10.1	TABLE: Visual inspection - After Cycle 3		P
Test Date [MM/DD/YYYY].....:		04/23/2025	-
Sample #	Nature and position of initial findings – comments or attach photos		-
1(CONTROL)	No visual defect		P
2	No visual defect		P
3	No visual defect		P
4	No visual defect		P
5	No visual defect		P
Supplementary information: Nil			

TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE

Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TC-6468

TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE: 21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY: Noida

List of Annexes

Annex 1: Statement of the estimated uncertainty of the test results

Annex 2: Photographs of EUT

ANNEX 3: BOM Details

Annex 1: Statement of the estimated uncertainty of the test results

For Pmp – Measurement uncertainty is $\pm 2.4\%$

For Isc – Measurement uncertainty is $\pm 2.1\%$

For Voc – Measurement uncertainty is $\pm 1.8\%$

TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

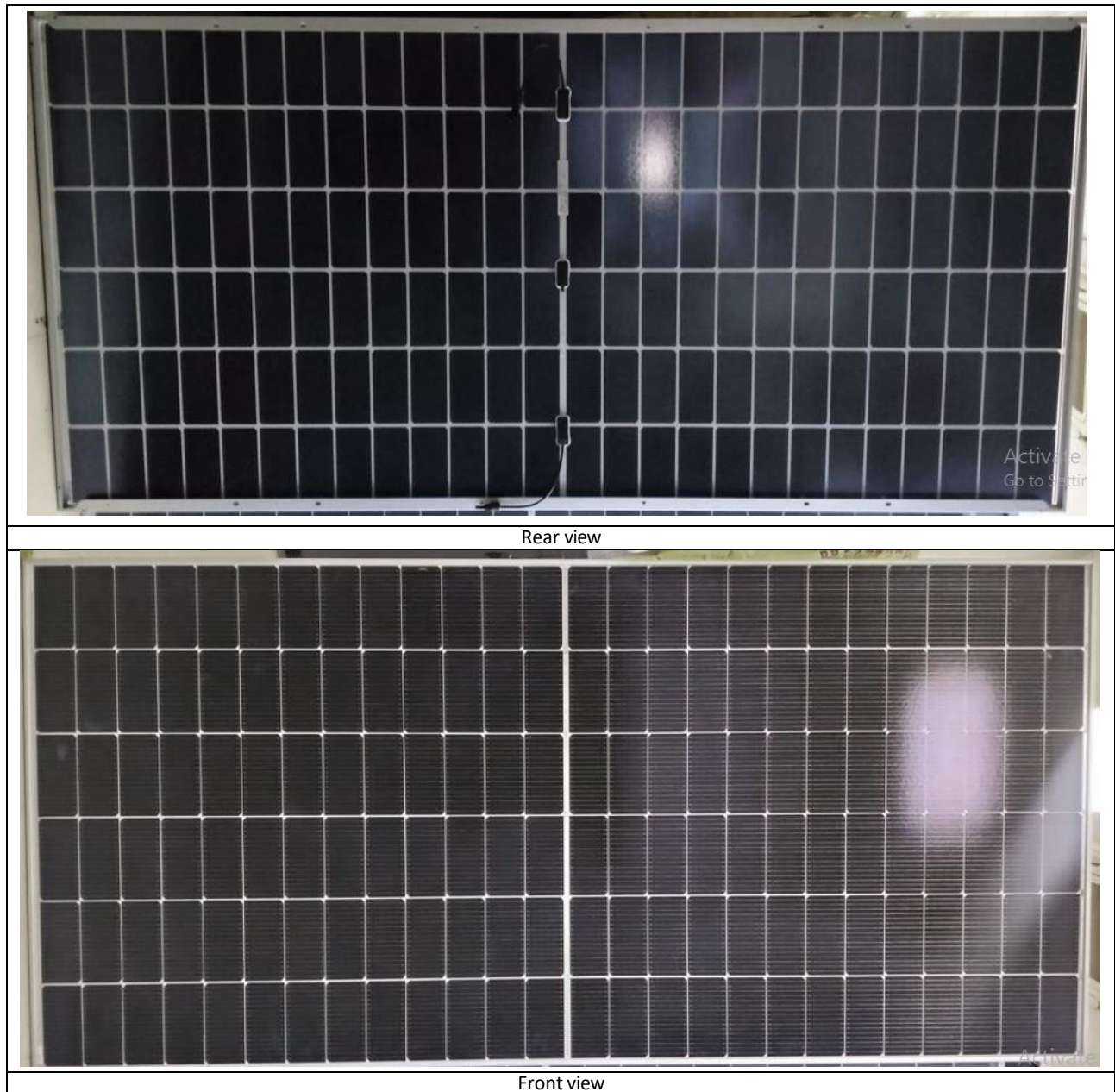
DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

Annex 2: Photographs of EUT



TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE

Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

ANNEX-3:BOM Details

A1.1	MODULE TYPE/S	
	Model Tested: IBMPH-640	
	<u>Series Models:</u> 156 Half cut cell family IBMPH-635, IBMPH-630, IBMPH-625, IBMPH-620, IBMPH-615, IBMPH-610, IBMPH-605 144 Half cut cell family IBMPH-600, IBMPH-595, IBMPH-590, IBMPH-585, IBMPH-580, IBMPH-575, IBMPH-570, IBMPH-565, IBMPH-560, IBMPH-555, IBMPH-550, IBMPH-545, IBMPH-540, IBMPH-535, IBMPH-530, IBMPH-525, IBMPH-520, IBMPH-515, IBMPH-510, IBMPH-505. 132 Half cut cell family IBMPH-500, IBMPH-495, IBMPH-490, IBMPH-485, IBMPH-480, IBMPH-475, IBMPH-470, IBMPH-465, IBMPH-460 120 Half cut cell family IBMPH-455, IBMPH-450, IBMPH-445, IBMPH-440, IBMPH-435, IBMPH-430, IBMPH-425, IBMPH-420, IBMPH-415 108 Half cut cell family IBMPH-410, IBMPH-405, IBMPH-400, IBMPH-395, IBMPH-390, IBMPH-385, IBMPH-380.	
A1.2	MODULE DESIGN –DIMENSIONS	
	Module dimensions (L x W x H) [mm].....:	2466 x 1135x 35 for 156 cell family 2278 x 1134 x 35 for 144 cell family 2094 x1134 x 35 for 132 cell family 1908 x1134 x 35 for 120 cell family 1723 x1134 x 35 for 108 cell family
A1.3	SOLAR CELL	
	Cell type reference.....:	Primary: TN182A-R16D1, Monocrystalline Bifacial TOPCon Cell, Manufactured by: Solar N Plus New Energy Technology Co., Ltd
	Cell dimensions L x W x T (± %) [mm].....:	Primary: 182mmx91mm (±0.5mm)
	Cell thickness [μm].....:	Primary: 130μm (±13μm)
	Cell area [cm ²].....:	Primary: 165.62
A1.4	IDENTIFICATION OF MATERIALS	
	Front cover.....:	Primary: Low Iron Solar AR Coated Patterned Glass; Thickness: 2.0mm ± 0.2mm, Manufactured by: Borosil Renewables Limited Alternative: Low Iron Solar Anti-Reflective Coated Patterned Glass), Thickness: 2.0 mm ± 0.2 mm, Manufactured by: Triveni Renewables Pvt. Limited <i>Alternate Front cover having same strengthening process and same surface treatment and same material all technical details are same as the main model, only change in manufacturer name as per declared by manufacturer .</i>

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

	Rear cover.....:	Primary: Low Iron Solar AR Coated Patterned Glass; Thickness: 2.0mm $\pm$ 0.2mm; Manufactured by: Borosil Renewables Limited. Alternative: Low Iron Solar Anti-Reflective Coated Patterned Glass, Thickness: 2.0 mm $\pm$ 0.2 mm, Manufactured by: Triveni Renewables Pvt. Limited Alternate Rear cover having same strengthening process and same surface treatment and same material all technical details are same as the main model, only change in manufacturer name as per declared by manufacturer
	Encapsulation material.....:	Primary: CONSERV P - 14 FC, Thickness: 0.45 $\pm$ 5%, Width: upto 1240 mm, Manufactured by: Renewsys India Private Limited. Alternative: ALISHAN FC, Manufactured by: Alishan Green Energy Pvt. Ltd Alternate Encapsulation material having same technical details as per declared by Manufacturer.
	Frame parts.....:	Primary: 6005 T6, Cross section: 35mm x 35 mm; Manufactured by Perfect Alex Pvt. Ltd. Alternative: DV-A-700, Cross section: 35mm x 35 mmManufactured by: Jiangsu Yuejia Metallic Technology Co.Ltd Alternate Frame having same technical details only change in manufacturer name as per declared by manufacturer
	Mounting parts.....:	as per installation manual
	Adhesive for frame.....:	Primary: 1527 Silicone Sealant For PV Modules, White colour; Manufactured by Tonsan Adhesive, Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd Alternate Adhesives having same technical details only change in manufacturer name as per declared by manufacturer
	Cell connector.....:	Primary: Type: TPVIR2660, Sn60%/Pb40%, Dimensions [mm]: 0.26 mm; Manufactured by: VALEO PRODUCTS LLP Alternative: Manufactured by: VIDYA WIRES PVT LTD. Alternate cell connector having same technical details only change in manufacturer name as per declared by manufacturer.

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

	String connector.....:	Primary: Type: TPV1603580, Sn60%/Pb40%, Dimensions [mm]: 6x 0.35mm Manufactured by: Valeo Products LLP Alternative: Manufactured by: VIDYA WIRES PVT LTD. Alternate string connector having same technical details only change in manufacturer name as per declared by manufacturer.
	Fluxing agent.....:	Primary: 952-S, Low-Solids, No-Clean Liquid Flux, Manufactured by Kester
	Junction box.....:	Primary: GXSB-01, Rated voltage: 1.5KVDC, Rated Current: 45A, IP68, Ambient Temperature: -40°C to +85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certified by TUV SUD; certificate no.: B1157770002
	Cable	Primary: 1X4mm2, Electric Cables for Photovoltaic Systems for Rated Voltage 1500V d.c., for sizes upto and including 400 Sqmm, Conductor Class-5, Manufactured by APAR INDUSTRIES LTD (CM/L- 7100058704).
	Connector.....:	Primary: GXC-01, Rated voltage: 1500VDC, Rated current: 40A, IP68, Ambient Temperature: -40°C to 85°C, Manufactured by Genx Pv India Private Limited. Certificate no.: B 115777 0001 Rev. 00, Tested by TUV SUD.
	Bypass diode.....:	Primary: MK6045, Tj [°C]: -55 to +200°C, V _{RMS} : 45 V; I _{FSM} : 450A; R _{ΘJC} :1.2°C/W, VDC 45V, Manufactured by Genx Pv India Private Limited.
	Potting material.....:	Primary: 1521 Potting Materials, White colour; Manufactured by Tonsan Adhesive Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd Alternate Potting material having same technical details only change in manufacturer name as per declared by manufacturer
	Adhesive for junction box.....:	Primary: 1527 Silicone Sealant For PV Modules, White colour; Manufactured by Tonsan Adhesive, Inc. Alternative: Manufactured by: Shanghai Huitian new material Co., Ltd Alternate Adhesives having same technical details only change in manufacturer name as per declared by manufacturer
	Soldering Material.....:	Primary: Alpha Telecore HF-850, Manufactured by: ALPHA Global
	Additional material (e. g. insulation tape)....:	N/A

TESTED BY

Aniket Nandkumar Gaikwad

Analyst



AUTHORIZED SIGNATURE



Vice President (Technical)

ISSUED BY

Paras Singh

Vice President (Technical)



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



TC-6468

TEST REPORT NO.: URS/LAB/02/RID/25-26/2931

DATE OF ISSUE:21/05/2025

ULR: ULR-TC646825100014714F

CUSTOMER NAME: INTEGRATED BATTERIES INDIA PRIVATE LTD

CUSTOMER CITY:Noida

A1.5	MODULE DESIGN - MINIMUM DISTANCES	
	Between cells.....:	1.4 mm
	Between cell and edge of laminate.....:	17 mm
	Between any current carrying part and edge of laminate...:	15 mm

A1.6	MODULE DESIGN - ELECTRICAL CONFIGURATION	
	Total number of cells.....:	156 for 156 cell family 144 for 144 cell family 132 for 132 cell family 120 for 120 cell family 108 for 108 cell family
	Serial-parallel connection of cells.....:	78 cells in series and parallel connection:2 72 cells in series and parallel connection:2 66 cells in series and parallel connection:2 60 cells in series and parallel connection:2 54 cells in series and parallel connection:2
	Cells per bypass diode.....:	52 for 156 cell family 48 for 144 cell family 44 for 132 cell family 40 for 120 cell family 36 for 108 cell family
	No. of bypass diodes.....:	3

Note: Bill of material are same for all series family models.

--END OF TEST REPORT--

TESTED BY

Aniket Nandkumar Gaikwad
Analyst



AUTHORIZED SIGNATURE



Paras Singh
Vice President (Technical)

ISSUED BY

Paras Singh
Vice President (Technical)