Test Report

Sample Name: The Integrated Circuit

Sample Type: LTM8054IY#PBF

Manufacturer: ADI

Customer:

Chuangxin Online Test Center Laboratory

February 27, 2024

Test Report

Customer:

Customer Address: N/A

Sample Name: The Integrated Circuit

Sample Type: LTM8054IY#PBF

Manufacturer: ADI

Date Code: 2238/2240/2243

Package Type: BGA-88

Sample Amount: 500 PCS

Check Amount: 500 PCS

Arrived Date: 02/21/2024

Testing Date: 02/22/2024/09: 00 - 02/26/2024/17: 35

Issued by:

(Stamp)

Tested by

Inspected by

Approved by

Test Item

☐ External visual inspection

☐ Pin correlation test

☐ Programming test

☐ Solderability analysis

☐ Radiography(X-ray)

☐ XRF test

☑ Key functional test(KFT)

☐ Baking

☐ Tape and reel

☐ Top permanency test

☐ Internal visual inspection

☐ SAT test

☐ Cross section

Methods & Equipment

1.1 Test standard:

- AS6081A-2023

1.2 Optical microscope:

- Equipment spec:

Optical microscope: SEZ-260 X7-X45(Due date: 7/18/2024)

1.3 Functional test equipment:

- Equipment spec:

Programmable DC power supply: DP831A(Due date: 7/18/2024)

Digital multimeter: DM3058E(Due date: 7/18/2024)

1.4 Product datasheet:

- 《ADI LTM8054IY#PBF》:

https://www.analog.com/media/en/technical-documentation/data-sheets/8054fa.pdf

Analysis Summary

Key functional test(KFT) results:

Key functional test(KFT)	Results:
Total quantity tested	500 PCS(177 PCS of D/C 2238, 61 PCS of D/C 2240 and 262 PCS of D/C 2243)
Total quantity passed	500 PCS
Total quantity failed	0 PCS
Note	All devices passed the parameter test.

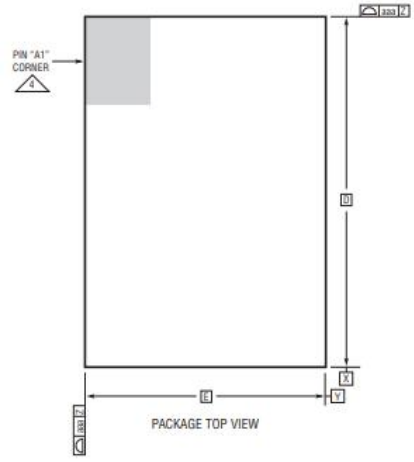
Key functional test(KFT) results:	
Tested parameters	Results
Quiescent Current Into V_{IN} (Tied to SV_{IN})	Pass
Voltage at FB Pin	Pass
MODE Input Low Threshold	Pass
MODE Input High Threshold	Pass

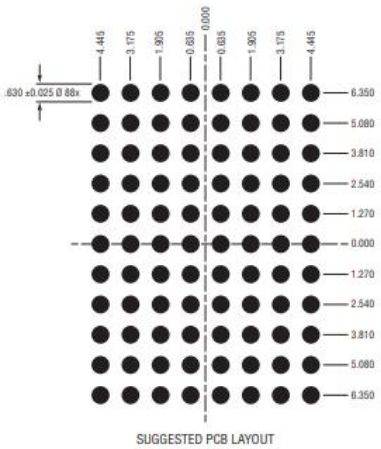
1. Device description:

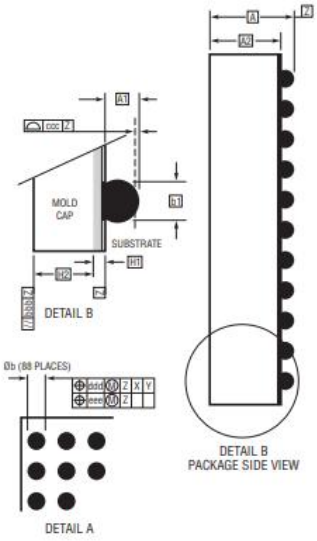
The LTM®8054 is a 36VIN, buck-boost µModule® (micromodule) regulator. Included in the package are the switching controller, power switches, inductor and support components. A resistor to set the switching frequency, a resistor divider to set the output voltage, and input and output capacitors are all that are needed to complete the design.

2. Package dimension:

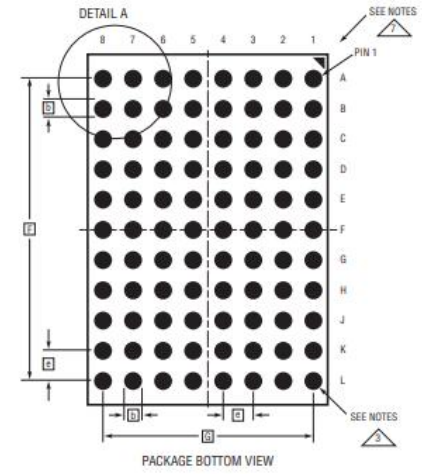
BGA Package
88-Lead (15mm × 11.25mm × 3.42mm)
(Reference LTC DWG # 05-08-1928 Rev B)



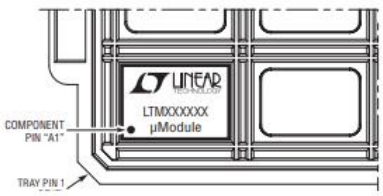




DIMENSIONS				
SYMBOL	MIN	NOM	MAX	NOTES
A	3.22	3.42	3.62	
A1	0.50	0.60	0.70	
A2	2.72	2.82	2.92	
b	0.60	0.75	0.90	
b1	0.60	0.63	0.66	
D		15.00		
E		11.25		
e		1.27		
F		12.70		
G		8.89		
H1	0.27	0.32	0.37	
H2	2.45	2.50	2.55	
aaa			0.15	
bbb			0.10	
ccc			0.20	
ddd			0.30	
eee			0.15	



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994
2. ALL DIMENSIONS ARE IN MILLIMETERS
3. BALL DESIGNATION PER JESD MS-028 AND JEP95
4. DETAILS OF PIN #1 IDENTIFIER ARE OPTIONAL, BUT MUST BE LOCATED WITHIN THE ZONE INDICATED. THE PIN #1 IDENTIFIER MAY BE EITHER A MOLD OR MARKED FEATURE
5. PRIMARY DATUM -Z- IS SEATING PLANE
6. SOLDER BALL COMPOSITION IS 96.5% Sn/3.0% Ag/0.5% Cu
7. PACKAGE ROW AND COLUMN LABELING MAY VARY AMONG µModule PRODUCTS. REVIEW EACH PACKAGE LAYOUT CAREFULLY



3. Receiving inspection:

Gross Weight	1300 g	**Parts Total**	500 PCS
Number of Boxes	N/A	**Full Label**	N/A
Package Type	Bulk	**Moisture Protection**	N/A
MSL	N/A	**ESD Protection**	N/A

Note: All devices contain 500 PCS samples(177 PCS of D/C 2238, 61 PCS of D/C 2240 and 262 PCS of D/C 2243).

Received view-1	Received view-2
	

4. Key functional test(KFT):

Applicable standard: **AS6081A-2023**

Ambient temperature: 24.2 ℃ Relative humidity: 51.7 % RH

Using DC power supply, multimeter verified the following parameters:

-Quiescent Current Into V_{IN} (Tied to SV_{IN}):

I_Q = 1 μA MAX @ RUN = 0.3 V(Disabled);

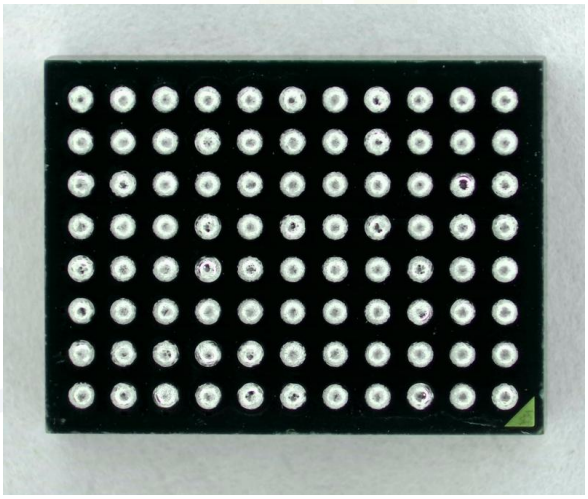
I_Q = 30 mA MAX @ No Load, MODE = 0.3 V(DCM);

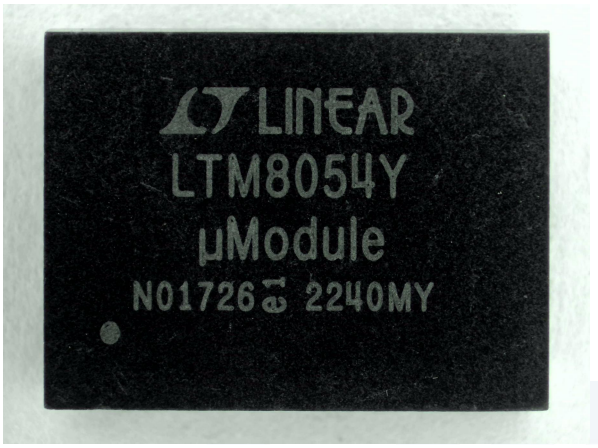
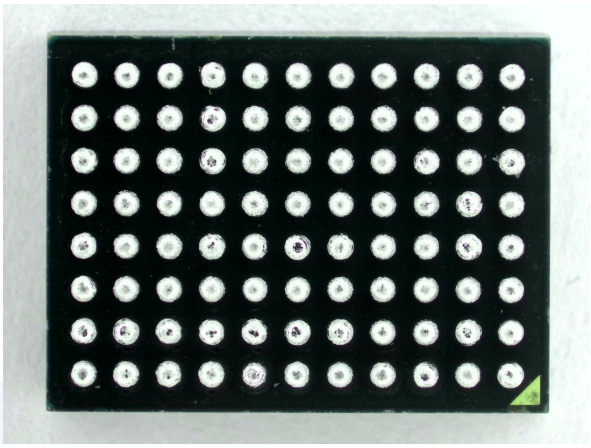
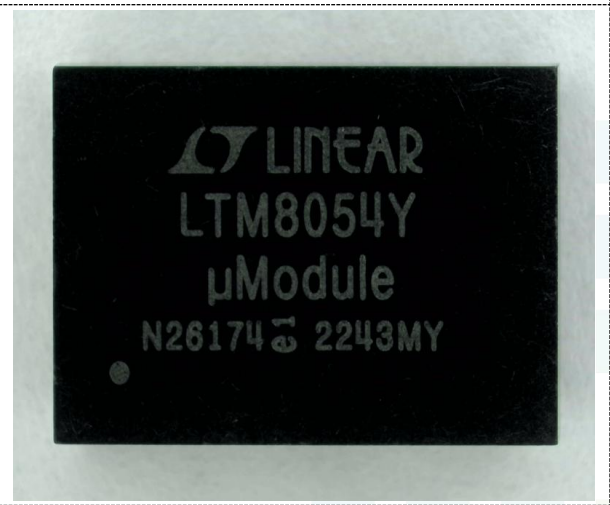
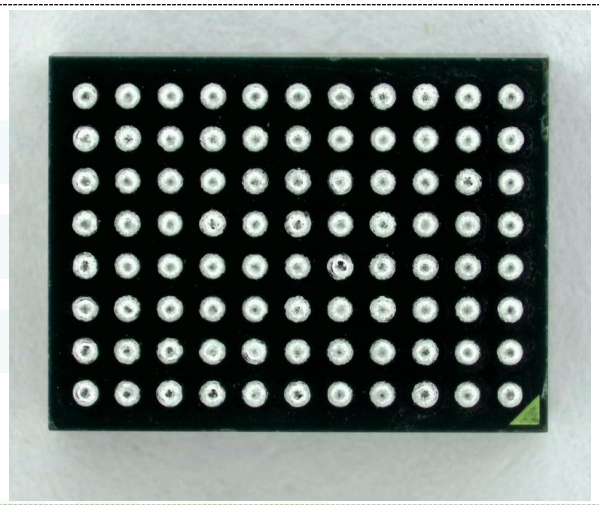
I_Q = 100 mA MAX @ No Load, MODE = 1.5 V(FCM);

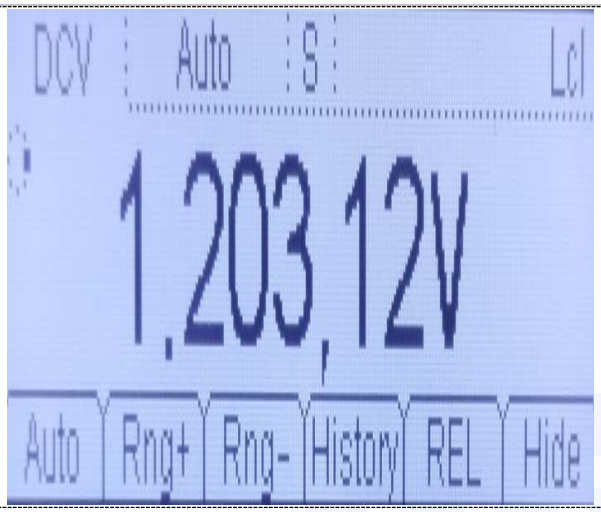
-Voltage at FB Pin: 1.188 V ≤ V_{FB} ≤ 1.212 V;

-MODE Input Low Threshold: V_{IL} = 0.3 V MAX;

-MODE Input High Threshold: V_{IH} = 1.5 V MIN;

D/C 2238-Top	D/C 2238-Bottom
	
D/C 2240-Top	D/C 2240-Bottom

	
D/C 2243-Top	D/C 2243-Bottom
	
V_{IN} = 6 V, V_{IH} = 1.5 V	V_{IN} = 6 V, V_{IL} = 0.3 V
	
V_{FB} = 1.203 V	I_Q = 0.051 µA @ RUN = 0.3 V(Disabled)



I_Q = 13.576 mA

@ No Load, MODE = 0.3 V(DCM)

I_Q = 20.017 mA

@ No Load, MODE = 1.5 V(FCM)

Detailed data

Sample \ Parameter		V_{FB} (V)	I_Q (µA) @ RUN = 0.3 V(Disabled)	I_Q (mA) @ No Load, MODE = 0.3 V(DCM)	I_Q (mA) @ No Load, MODE = 1.5 V(FCM)
D/C 2238	A1	1.203	0.051	13.576	20.017
	A2	1.203	0.045	13.321	28.880
	A3	1.206	0.007	14.149	23.123
	A4	1.209	0.100	14.022	21.907
	A5	1.201	0.065	14.591	24.619
D/C 2240	B1	1.208	0.010	14.489	30.227
	B2	1.209	0.086	13.589	25.363
	B3	1.203	0.068	13.818	24.695
	B4	1.208	0.003	13.326	26.651
	B5	1.203	0.080	14.659	30.371
D/C 2243	C1	1.204	0.028	14.148	22.134
	C2	1.206	0.044	14.345	24.064
	C3	1.201	0.094	14.236	23.182
	C4	1.208	0.062	14.377	25.324
	C5	1.205	0.011	14.049	31.247

Key functional test(KFT)	Results:
Total quantity tested	500 PCS(177 PCS of D/C 2238, 61 PCS of D/C 2240 and 262 PCS of D/C 2243)
Total quantity passed	500 PCS
Total quantity failed	0 PCS
Note	All devices passed the parameter test.

-End of Report-

Disclaimer

1. The test report is invalid without the stamp of "company seal" and "cross-page seal".

2. The copy of the test report is invalid without the stamp of "company seal" and "cross-page seal".

3. The test report is invalid without the signatures of operator, supervisor and manager.

4. A modified or partial copy of the test report is invalid.

5. When there is disagreement with the test report, please submit the issue to us within 15 days from the date of receipt. Overdue information will not be accepted.

6. The test report is only reflective of the test results of testing samples, not of the quality of batch products.

7. The * indicates subcontract test data.

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