



# Test Report : SMU02M-24N

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2W DC-DC Unregulated Single output Converter

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

## ■ SAFETY TEST

Safety test

## ■ RELIABILITY TEST

Environment Test

**DESIGN VERIFY TEST**
**OUTPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-3.0% ~ +3.0 % (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	-0.44%	P
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:13.2VDC O/P:FULL LOAD Ta:25°C	25 mV	P
3	LINE REGULATION	-12% ~ +12 %	I/P:10.8VDC~13.2VDC O/P:FULL LOAD Ta:25°C	-10.86% ~ +10.50%	P
4	LOAD REGULATION	-8.0% ~ +8.0%	I/P:12VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-2.03% ~ +2.20%	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	88%	I/P:12VDC O/P:FULL LOAD Ta:25°C	88.72%	P
2	DC CURRENT	189 mA / FULL LOAD 15 mA / NO LOAD	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	187.0 mA / FULL LOAD 11 mA / NO LOAD	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:13.2VDC O/P:FULL LOAD Ta:25°C	CONTINUOUS, AUTOMATIC RECOVERY	P
2	CASE TEMPERATURE	+115°C max	I/P:12VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY	P

**SAFETY TEST**
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NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1500 VDC/min	I/P-O/P:1500 VDC/min Ta:25°C	I/P-O/P: 0.002mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>100MΩ NO DAMAGE	P

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT										
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:12VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:12VDC O/P:FULL LOAD Ta=85°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:12VDC O/P:60% LOAD Ta=105°C												
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>41.5°C</td> <td>97.1°C</td> <td>112.0°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	41.5°C	97.1°C	112.0°C
NO	Position	1	2	3										
1	CASE	41.5°C	97.1°C	112.0°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:12VDC O/P: FULL LOAD Ta= -40°C	TEST : OK										

### OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 0.5 M.T.B.F : 2,000KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG