



# Test Report : SMU01M-09N

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1W 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	-1.66%	P
2	RIPPLE & NOISE	75 mVp-p (Max)	I/P:13.2VDC O/P:FULL LOAD Ta:25°C	10 mV	P
3	LINE REGULATION	-12% ~ +12 %	I/P:10.8VDC~13.2VDC O/P:FULL LOAD Ta:25°C	-10.58% ~ +10.58%	P
4	LOAD REGULATION	-8.0% ~ +8.0%	I/P:12VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-1.23% ~ +1.31%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	87%	I/P:12VDC O/P:FULL LOAD Ta:25°C	88.51%	P
2	DC CURRENT	96 mA / FULL LOAD 6 mA / NO LOAD	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	92.1 mA / FULL LOAD 4.4 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

### SAFETY TEST

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=90°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:12VDC O/P:80% 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>33.6°C</td> <td>96.3°C</td> <td>110.5°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	33.6°C	96.3°C	110.5°C
NO	Position	1	2	3										
1	CASE	33.6°C	96.3°C	110.5°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